Rural Policy Centre

SAC

RURAL SCOTLAND IN FOCUS 2012

contents

Foreword

SAC's two-yearly Rural Scotland in Focus Reports are intended to provide a fast-track to a range of evidence and commentary on the implications of what rural Scotland looks like. Through the Reports, we aim to give stimulus to ongoing debates, and inform existing policy and practice dialogues and networks. We have compiled a rich compendium of referenced sources for the reader to investigate further.

The population of rural Scotland is growing, accounting for approximately 20% of the population - now over one million people. It also continues to change, becoming more culturally diverse. The employment base is broader than 20 years ago and an improved infrastructure increasingly allows for greater spread of business, home-working and the generation of renewable energy. Community engagement in the ownership of land and assets, together with the delivery of services through partnerships, gives potential for locally-specific approaches. Meanwhile rural towns and businesses play an increasing role in reducing vulnerability by increasing the spread of employment.

Our Report shows that although some change is common across rural Scotland, elements like growth, challenges and opportunities are experienced differently in different parts of the country. This is particularly true when we compare remote and peripheral parts of Dumfries and Galloway, the Scottish Borders, the Highlands and the Inner, Outer and Northern Isles; such diversity is even more apparent when we examine more accessible rural areas in the Central Belt, Ayrshire and Lanarkshire, and around cities in the North East and Inverness.

As with the 2010 Report, SAC is delighted that over 20 contributions have been made by individuals in industry, private enterprise, community development trusts, renewable energy and community broadband initiatives, development agencies, as well as from academic partners at the Universities of Aberdeen, Stirling, Highlands and Islands, Gloucestershire, Birkbeck (London) and Plymouth. This deliberate approach of inviting specialist authors to complement SAC's policy researchers reflects the importance we place on presenting multiple perspectives when describing and debating rural Scotland's present and future.

In presenting Rural Scotland in Focus, we are not arguing for policies privileging rural over urban, nor of implying that rural Scotland is in any way separate from the rest of Scotland. Rather, the evidence shows that rural Scotland continues to embody specific characteristics, and that these need to be recognised and addressed through increasingly tailored national policies. Such "fit for purpose" policies will enable rural businesses and communities to contribute their particular creativity, experience and knowledge to a sustainable Scotland.

Facal-toisich

'S e a tha fa-near do Cholaiste Àiteachais na h-Alba leis na h-Aithisgean fon ainm Alba Dhùthchail fon Phrosbaig, a thig a-mach a h-uile dàrna bliadhna, geàrr-iomradh a thoirt dhuibh air farsaingeachd de dh'fhianais is breithneachadh air co ris a tha Alba dhùthchail coltach agus a' bhuaidh a bhios aig sin. Tro na h-Aithisgean, tha e san amharc dhuinn na deasbadan a tha gan cumail a phiobrachadh agus cur ri còmhraidhean is lìonraidhean a tha togail air cùisean co-cheangailte ri poileasaidhean is dòighean-obrach. Tha sinn air taghadh farsaing de theacsaichean eile ainmeachadh do leughadair lem bu toil tuilleadh fiosrachaidh.

Tha an àireamh-sluaigh a tha fuireach air an dùthaich ann an Alba a' dol am meud, le mu 20% den t-sluagh a-nis a' fuireach air an dùthaich – còrr is millean duine. Tha gnè an t-sluaigh cuideachd a' sìor atharrachadh, agus an dealbh cultarach a' fàs nas eugsamhail. Tha tuilleadh sheòrsaichean obrach ann a-nis na bh' ann o chionn 20 bliadhna agus bun-structair nas fheàrr a' ciallachadh barrachd sheòrsachan ghnothachasan a' tàrmachadh, le daoine ag obair bhon taigh agus pròiseactan cumhachd ath-nuadhachail. Ri linn mar a tha coimhearsnachdan air sealbh a ghabhail air an fhearann aca agus goireasan eile, agus seirbheisean a tha gan lìbhrigeadh tro obair chom-pàirt, tha cothroman ann iomairtean a chur air adhart a tha gu sònraichte a' freagairt air sgìrean fa leth. Aig an aon àm, tha barrachd buaidh aig bailtean agus gnothachasan dùthchail air mar a tha obraichean gan sgaoileadh air feadh na dùthcha agus sin a' neartachadh choimhearsnachdan.

Tha ar n-Aithisg a' sealltainn ged a tha cuid a chùisean a' sìor atharrachadh anns gach ceàrnaidh de dh'Alba dhùthchail, tha eadar-dhealachaidhean ann bho cheàrnaidh gu ceàrnaidh a thaobh fàis agus a thaobh nan dùbhlan is nan cothroman a th' aca. Tha seo gu sònraichte follaiseach ma choimheadas sinn air na sgìrean iomallach ann an Dùn Phris is Gall-Ghàidhealaibh, na Crìochan, air a' Ghàidhealtachd agus sna h-Eilean Siar agus sna h-Eileanan mu Thuath. Tha an t-eadar-dhealachadh nas follaisiche buileach nuair a choimheadas sinn air na sgìrean dùthchail a tha nas fhasa a ruighinn ann am Meadhan na h-Alba, Siorrachd Àir, Siorrachd Lannraig, agus timcheall bailtean an ear-thuath agus Inbhir Nis.

Mar a bha fìor do dh'Aithisg 2010, tha an SAC air leth toilichte gun d'fhuair sinn còrr is 20 earrainn sgrìobhte bho dhiofar dhaoine a tha an sàs ann an gnìomhachas, iomairtean prìobhaideach, urrasan coimhearsnachd, cumhachd ath-nuadhachail, iomairtean coimhearsnachd airson bann-leathann, buidhnean leasachaidh, a thuilleadh air luchd com-pàirt acadaimigeach bho Oilthigh Obar Dheathain, Shruighlea, na Gàidhealtachd, Gloucestershire, Birkbeck (Lunnainn) agus Plymouth. Tha mar tha a sinn a' sireadh ùghdaran a dh'aona-ghnothach, aig a bheil eòlas sònraichte gus cur ri eòlas ar sgioba-rannsachaidh phoileasaidhean, a' sealltainn cho cudromach a tha e dhuinne gun toir sinn farsaingeachd bheachdan dhuibh nuair a tha sinn a' cur an cèill agus a' togail deasbad air Alba dhùthchail an-diugh agus sa cheann fhada.

Le bhith foillseachadh Alba Dhùthchail fon Phrosbaig, chan eil sinn a' coiteachadh airson poileasaidhean a bheir barrachd taic do sgìrean dùthchail seach bailtean-mòra, agus cha mhò gu bheil sinn ag ràdh gu bheil Alba dhùthchail fa leth bhon chòrr den dùthaich. Ach tha an fhianais a' dearbhadh gu bheil feartan sònraichte aig sgìrean dùthchail na h-Alba, agus gum feumar toirt an aire dhaibh agus frithealadh orra tro phoileasaidhean nàiseanta a ghabhas ealla riutha. Bheir poileasaidhean eagnaidh den t-seòrsa sin cothrom do ghnothachasan is coimhearsnachdan dùthchail an cuid ealantais, eòlais is fios a chur gu feum ann a bhith cur ri Alba a sheasas ri gach dùbhlan.

R Webb

Professor Bob Webb
An t-Ollamh Bob Webb

Chief Executive and Principal
Àrd-oifigear agus Prionnsapal

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Whilst valuable guidance was received, the usual caveat applies: any errors or omissions remain the Report authors' alone.

Specialist contributors:

We also wish to thank those individuals who wrote specific components as "In Focus" boxes for the different Report Sections. The contributors are recognised specialists in their fields, and thus bring their added knowledge and experience to the Report.

SAC is delighted that over 20 contributions have been made by individuals from industry, private enterprise, community development trusts, renewable energy and community broadband initiatives, development agencies, as well as from academic partners at the Universities of Aberdeen, Stirling, Highlands and Islands, Gloucestershire, Birkbeck (London) and Plymouth. Their contributions bring added depth and understanding to the themes covered in the Report.

This deliberate approach of inviting specialist authors to complement SAC's policy researchers reflects the importance we place on presenting multiple perspectives when describing and debating rural Scotland's present and future.

Maps in Section 4:

In addition to maps produced by SAC within the rest of the report, we would also like specifically to acknowledge Michael Keller, who worked as an Intern at SAC from November 2011-February 2012, ploughing tirelessly through, and making sense of, many datasets, to produce the new set of maps published here.

Report photographs

The majority of the photographs in the Rural Scotland in Focus 2012 Report were specially commissioned by SAC from Iain White, **www.scotlandoncanvas.co.uk**

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Gaelic translation

Gaelic translation of the Foreword, Executive Summary and Introduction was provided by Global Connects, Glasgow: **www.globalconnects.com**

Report Authors

The Report Sections were written by researchers who work within SAC's Rural Policy Centre.

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Jane Atterton is a researcher in SAC's Rural Policy Centre. Jane has been researching rural and regional development issues for over 12 years, working for both academic and policy organisations. Jane's main areas of interest are rural businesses, rural policies and the rural policy-making process and rural community development.

Clare Hall has been a researcher at SAC since 2002. During that time she completed a PhD investigating perceptions of risk relating to GM technology and has been involved in diverse social research projects relating to agricultural issues and rural communities. She is increasingly involved in research relating to the behavioural changes necessary for achieving a low carbon future.

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Cesar Revoredo-Giha is senior food marketing economist and team leader in Food Marketing Research. He is an applied economist specialising in the industrial organization of food markets, international trade and econometrics. His main areas of work involve the analysis of food supply chains from farmers to consumers.

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Steven Thomson is an experienced agricultural economist who has worked in SAC for nearly 20 years. Although he has a particular interest in agricultural and rural policy evaluation, he is also involved in a wide range of rural economy studies, which stem from his comprehensive knowledge of contemporary agriculture and rural development issues. His recent work includes 'Response from the Hills: Business as Usual or a Turning Point?' report and this year's Oxford Farming Conference report on 'Power in Agriculture'.

Mike Woolvin is a social geographer within the Rural Society Research team. His research interests include the nature and extent of volunteering and the third sector in rural areas - particularly in the context of ongoing public service reform – and wider research exploring rural community resilience. He also has research interests in the nature and implications of 'low carbon' transition for rural areas. Mike is a member of the Scottish Government's Third Sector Research Forum.

In addition, Professor John Farrington and Fiona Heesen both co-authored Section 5 (with Sarah Skerratt) on next generation broadband in rural Scotland:

Professor John Farrington has worked widely in rural geography, accessibility, sustainability and policy relations. He views research as informing policy while being informed by theory. He has particular experience of large-scale projects on rural accessibility and social justice, sustainable rural land use in the EU, and rural animal-based disease. He is currently Director of the RCUK Rural Digital Economy Research Hub (www.dotrural.ac.uk) at the University of Aberdeen, and is also working in an ESRC e-Social Science project to develop a virtual research environment for interdisciplinary research, whilst also pursuing his research interests in the digital economy.

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Executive Summary

- Every two years, SAC's Rural Policy Centre, by researching and publishing its *Rural Scotland in Focus Report,* provides a fast-track to evidence, commentary on key themes, and an extensive compendium of resources.

How has rural Scotland changed since we reported in 2010?

- **Population trends:** There will be population growth in most of rural Scotland's Local Authority areas in the next 20 years. Migration will play a major part and continue the rising trend of more cultural diversity.
- **Housing needs:** The growing populations will increase demand for housing, including provision for single-occupant households. This means more pressure for suitable land and mains services. In many rural areas nearly 50% of housing stock is second homes and vacant property.
- **Economic resilience:** The little evidence available so far suggests the growth in public sector employment from 2007-2010 seems unlikely to continue, offering the potential for increased vulnerability of those areas most dependent on public sector jobs. While economic activity in rural areas contracted in 2007-2010, they were slightly more resilient than urban areas, although the South of Scotland has suffered a greater impact.
- **Environment:** Opportunities offered by the Land Use Strategy should contribute to the integrated approach required to address Scotland's competing demands of climate change, water quality and biodiversity. An ecosystem approach in assessing land use options is the best way to help identify and resolve conflicts, allowing for the full range of goods and services to be taken into account and trade-offs to be analysed.

Drivers and engines of change: towns, the private sector and the third sector

- **Towns in rural Scotland:** Many regeneration initiatives focus on towns the Scottish Government classifies as having populations between 3,000 and 10,000. While larger and smaller rural settlements also perform critical service functions, many remote small towns are more vulnerable than their rural hinterlands, especially in accessible rural areas.
- **The private sector:** The highest density of businesses, per head of population, is in rural areas. In remoter areas microbusinesses (1-9 employees) provide 39% of jobs. Their closure can have a disproportionate impact due to lack of alternatives. Businesses in accessible rural areas are more ambitious for growth although there is a perception public sector support is aimed at high-growth areas. Integrated, place-based policies are needed that bring in planning consent for business units, housing and broadband investment.
- **Third sector:** There are more charities per head in rural than urban Scotland. More rural people are likely to have formally volunteered than urban people. We need to know whether voluntary effort adds to existing activities or is filling gaps in service provision. Widely spread and sparse populations and services mean charities in rural areas face specific challenges. While many rural communities have a wide skills-base, linking to specialist skills in other locations is important.

Infrastructural and technological developments and opportunities

- **Rural next generation broadband:** is integral to Scotland's social and economic development and to the delivery of the Scottish Government's National Outcomes. Demand is persistent and increasing. While urban Scotland's connectivity gets faster much of rural Scotland remains in the "final third" with "not-spots" and "twilight zones" hampering inclusion and development. Even maintaining the existing divide will require significant infrastructural investment, including by communities themselves. Next generation broadband enables the realisation of commonly-accepted "rights" for Scotland's citizens, irrespective of location. National investment remains essential to enable rural communities and businesses to live and work in a fit-for-purpose digital Scotland.
- **A low carbon rural Scotland:** Per capita domestic CO_2 emissions are higher in rural Local Authorities than urban. Rural domestic properties have worse energy efficiency ratings while rural transport emissions are greater, due to higher rates of car ownership and use. With more domestic and business properties 'off grid', rural areas have a greater potential for adopting renewables and addressing low carbon household and transport agendas. However conversion costs must be recognised, together with infrastructural challenges such as connectivity to the grid. The rural land-use sector has the capacity to sequester CO_2, through good practice in soil management and afforestation. There are examples of established and novel approaches where rural areas are already helping lower carbon emissions.

Policy: where next?

- The evidence unequivocally supports the claim that specific characteristics make rural Scotland different from urban Scotland. This does not argue for "privileging" rural over urban. Rather, to enhance growth or development, inclusion and life-chances, the design and deployment of policies must be "tailored" to rural Scotland.
- Other areas of national policy offer a precedent, where design and delivery differ according to client group and socio-economic circumstance or occupation. The National Performance Framework itself is tailored through devolved Single Outcome Agreements. Therefore tailoring of national policy already takes place and is increasingly appropriate due to the critical need to target resources and budget efficiently.
- Such tailoring needs to go further, making it "fit for purpose" in multiple rural settings. Scotland's rural characteristics need to be deliberately built, repeatedly and systematically, into the very heart of strategic, national policies. In straightened times localising design and delivery can be seen as an expensive luxury, however not doing so risks inappropriate allocation of resources while challenges remain unaddressed. Hand in hand with a national policy architecture, increased tailoring will enhance outcomes.
- SAC's Rural Scotland in Focus Reports aim to enhance understanding of what rural Scotland is like and what life there is like. Applying this enhanced understanding and deliberately integrating it into "fit for purpose" policies, will increase the scope for all players to contribute and thrive, irrespective of where they live and work in rural Scotland.

Geàrr-chunntas Gnìomhach

- Gach dàrna bliadhna, tha Ionad Phoileasaidhean Dùthchail Colaiste Àiteachais na h-Alba, tro bhith rannsachadh agus a' foillseachadh na h-Aithisge *Alba Dhùthchail fon Phrosbaig*, a' toirt dhuibh geàrr-iomradh air fianais is breithneachadh air raointean cudromach, agus taghadh farsaing de theacsaichean anns am faighear fiosrachadh.

Ciamar a dh'atharraich Alba dhùthchail bhon aithisg mu dheireadh ann an 2010?

- Atharraichean san t-sluagh: Thèid àireamh an t-sluaigh an àird anns a' mhòr-chuid de sgìrean dùthchail aig Ùghdarrasan Ionadail na h-Alba san ath 20 bliadhna. Bheir in-imrich buaidh nach beag agus an lùib sin bidh eugsamhlachd chultaran a' togail ceann.
- Feumalachdan taigheadais: Mar a thèid an sluagh am meud 's ann as motha a bhios an iarraidh air taighean, agus an cois sin bidh barrachd iarraidh air dachaighean airson aon duine. Bidh sin a' ciallachadh gum bi barrachd feum air talamh freagarrach agus goireasan mar dealain. Ann an tòrr sgìrean dùthchail 's e dàrna dachaighean agus taighean falamh a th' ann an cha mhòr 50% den taigheadas.
- Seasamh eaconamach: A rèir a' bheagain fianais a th' againn gu ruige seo chan eil e coltach gun cùm an àireamh de dh'obraichean san roinn phoblaich a' dol an àirde, mar a thachair eadar 2007-2010, agus air sgàth sin dh'fhaodadh cùisean a bhith nas cugallaiche sna sgìrean a tha an eisimeil obraichean san roinn sin. Ged a bha crìonadh san eaconamaidh sna sgìrean dùthchail eadar 2007-2010, cha robh cùisean buileach cho dona 's a bha iad sna bailtean-mòra, ged a bha barrachd droch bhuaidh aig seo air Ceann a Deas na h-Alba.
- An Àrainneachd: Cuiridh na cothroman a thig an cois na Ro-innleachd Fearainn ris an dòigh smaoineachaidh aonaichte a dh'fheumas a bhith ann gus dèiligeadh ris na diofar cheistean a dh'èireas an lùib atharraichean sa ghnàth-shìde, càileachd an uisge agus bith-iomadachd. 'S e an dòigh as fheàrr còmhstri aithneachadh agus fuasgladh fhaighinn oirre, ma ghabhar ealla ris an eag-siostam nuair a thathar a' beachdachadh air dè na roghainnean as fheàrr airson feum a dhèanamh den fhearann, ma thachras seo bheirear an aire do gach seòrsa bathair is seirbheis agus gabhaidh sgrùdadh ceart a dhèanamh air buaidh nan diofar roghainnean.

Bunaitean tron tig atharraichean: bailtean, an roinn phrìobhaideach agus an treas roinn

- Bailtean ann an Alba dhùthchail: Tha tòrr iomairtean ath-nuadhachaidh a' cur cuideam air bailtean, àiteachan a rèir Riaghaltas na h-Alba far a bheil eadar 3,000 is 10,000 duine a' fuireach. Ged a tha bailtean beaga is mòra air an dùthaich cuideachd a' lìbhrigeadh tòrr sheirbheisean deatamach, tha tòrr bhailtean beaga iomallach ann am barrachd cunnairt eaconamach na tha na sgìrean dùthchail mun cuairt orra, gu sònraichte ann an sgìrean dùthchail a tha furasta a ruighinn.
- An roinn phrìobhaideach: Tha barrachd ghnothachasan gach duine ann an sgìrean dùthchail na tha ann an sgìre sam bith eile. Ann an sgìrean nas iomallaiche tha Meanbh-ghnothachasan (1-9 luchd-obrach) a' toirt cosnadh do 39% den luchd-obrach. Ma dhùineas iad, tha a' bhuaidh nas miosa na tha i ann an sgìrean eile seach nach eil mòran obraichean eile ann. Tha barrachd miann airson fàs aig gnothachasan ann an sgìrean dùthchail a tha furasta a ruighinn na th' aig gnothachasan an sgìrean eile ged a tha beachd aig cuid a dhaoine gu bheil taic bhon roinn phoblaich ag amas air sgìrean far a bheil tòrr fàis. Tha feum air poileasaidhean aonaichte a thaobh àiteachan agus làraichean far am faighear cead dealbhachaidh airson aonadan gnothachais, taigheadas agus goireasan bann-leathann.
- An treas roinn: Tha barrachd bhuidhnean-carthannais gach neach ann an sgìrean dùthchail na h-Alba na tha ann am bailtean na h-Alba. Tha barrachd teans ann gum bi cuideigin bhon dùthaich air obair shaor-thoileach a dhèanamh ann an suidheachadh foirmeil seach cuideigin bho na bailtean. Feumaidh fios a bhith againn ma tha obair shaor-thoileach a' cur ri gnìomhachd a th' ann mu thràth no a bheil i a' lìonadh bheàrnan sna seirbheisean. Air sgàth 's mar a tha sluagh beag is sgapte sna sgìrean dùthchail tha dùbhlain shònraichte ro na buidhnean-carthannais an sin. Ged a tha measgadh mòr de sgilean aig coimhearsnachdan dùthchail mar as tric, tha e cudromach cuideachd gun dèan iad ceangal ri daoine aig a bheil sgilean sònraichte ann an àiteachan eile.

Leasachaidhean is cothroman a thaobh a' bhun-structair is teicneòlas

- Tha an ath ìre den bhann-leathann air an dùthaich: deatamach do leasachadh sòisealta is eaconamach na h-Alba agus do bhith coileanadh Builean Nàiseanta Riaghaltas na h-Alba. Tha barrachd is barrachd iarraidh air. Ged a tha ceangal nas luaithe is nas luaithe ri fhaighinn ann am bailtean na h-Alba, tha tòrr de sgìrean dùthchail na h-Alba san "trian mu dheireadh" le "làraichean do-ruigsinneach" agus "cùiltean-fraoin" agus seo a' cur maill air in-ghabhail is leasachaidhean. Tha maoineachadh nach beag a dhìth, bho na coimhearsnachdan fhèin cuideachd, airson a' bhun-structair ma thathar a' dol a chumail a' bheàirn a th' ann mu thràth fiù 's mar a tha e. Bheir an ath ìre den bhann-leathann cothrom do mhuinntir na h-Alba air "còraichean" iom-aontaiche às bith càite a bheil iad. Tha e riatanach fhathast gun tèid airgead a chur an seilbh gu nàiseanta gus an urrainn do choimhearsnachdan is gnothachasan air an dùthaich a bhith ag obair is a' fuireach ann an Alba dhìdseatach mar as còir is mar as iomchaidh.
- Alba dhùthchail le nas lugha carbon: Tha sgaoilidhean CO2 san dachaigh gach neach nas àirde ann an sgìrean Ùghdarrasan Ionadail dùthchail na tha iad ann an sgìrean Ùghdarrasan Ionadail baile. Chan eil dachaighean air an dùthaich cho èifeachdach a thaobh cumhachd agus tha barrachd sgaoilidhean aig còmhdhail dhùthchail, seach gu bheil barrachd dhaoine a' dèanamh feum de chàraichean. Seach gu bheil barrachd dhachaighean agus toglaichean gnothachais 'far a' ghriod' air an dùthaich, tha cothrom nas fheàrr aca cumhachd ath-nuadhachail a chur an sàs agus nas lugha carbon a sgaoileadh nan dachaighean agus ann a bhith siubhal. Ge-tà, feumar ealla a ghabhail ri cosgaisean na h-obrach leasachaidh, agus tha dùbhlain a thig an lùib bun-structair agus a bhith ceangal ris a' ghriod. Ghabhadh feum a dhèanamh de dh'fhearann dùthchail gus CO2 a thoirt air falbh, le bhith cur chraobhan agus a' cumail smachd air an ùir. Tha eisimpleirean ann de dh'iomairtean stèidhichte is ùra far a bheil sgìrean dùthchail a' cuideachadh le bhith lùghdachadh carbon.

Poileasaidhean: dè an ath cheum?

Tha an fhianais a' sealltainn dhuinn gu soilleir gu bheil feartan sònraichte ann a nì eadar-dhealachadh eadar Alba dhùthchail agus bailtean na h-Alba. Chan eil seo a' ciallachadh gum bu chòir coimhead air sgìrean dùthchail ann an dòigh nas fàbharaiche na bailtean. 'S e a th' ann, gum feumar poileasaidhean a dhealbh is a chur an gnìomh a dh'aona-ghnothach do dh'Alba dhùthchail ach an tig piseach air leasachadh, in-ghabhail agus cothroman 'beatha'.

Chìthear ann am poileasaidhean nàiseanta eile mar a thachair seo, gu bheil iad air an dealbh is air an cur an gnìomh a rèir co air a bheil iad ag amas agus dè an obair a th' aca no dè an suidheachadh sòisealta no eaconamach anns a bheil iad. Tha am Frèam Coileanaidh Nàiseanta fhèin dealbhte a dh'aona-ghnothach tro Aontaidhean nam Builean Singilte ionadail. Mar sin, thathar a' dealbh phoileasaidhean nàiseanta a dh'aona-ghnothach do dhaoine mu thràth agus tha e a' fàs nas iomchaidhe sin a dhèanamh ri linn 's mar a dh'fheumar buidseatan is goireasan a chur gu feum gu h-èifeachdach.

Feumar ceum eile a ghabhail leis an dealbhadh a dh'aona-ghnothach seo, feuch am bi e eagnaidh ann an diofar shuidheachaidhean dùthchail. Feumar feartan dùthchail na h-Alba fhighe a-steach, a-rithist is a-rithist agus gu cunbhalach, gu cridhe gach poileasaidh ro-innleachdail is nàiseanta. Aig àm doirbh don eaconamaidh dh'fhaodar coimhead air dealbhadh is cur an gnìomh ionadail mar chosgais nach bu chòir a bhith againn, ach tha cunnart ann mura dèanar sin gun tèid stòras a chosg ann an dòighean neo-iomchaidh agus gum bi na dùbhlain ann fhathast. Mar phàirt de mhòr-dhealbh de phoileasaidhean nàiseanta, bheir poileasaidhean a dh'aona-ghnothach piseach air builean.

Tha na h-Aithisgean Alba Dhùthchail fon Phrosbaig ag amas air tuigse a thoirt dhuibh air co ris a tha Alba dhùthchail coltach agus an dòigh-beatha an sin. Le bhith dèanamh feum den tuigse seo, agus le bhith ga fhighe a-steach gu poileasaidhean eagnaidh, bidh barrachd chothroman aig a h-uile duine cur ri soirbheachadh na h-Alba, às bith càite a bheil iad a' fuireach agus ag obair ann an Alba dhùthchail.

Introduction

Our rationale for producing the Rural Scotland in Focus (RSiF) Reports is to enhance shared understanding of rural Scotland in the 21st Century. We provide a fast-track to a range of evidence and commentary on the implications of what rural Scotland looks like, together with a rich compendium of referenced sources for the reader to investigate further. Our aim is to stimulate ongoing debates, and inform dialogue over existing policy and practice.

For SAC's 2012 Report, we have focussed on three main themes: changes and future trends; drivers of change; and infrastructural and technological developments.

We identify **changes and trends** in Section 1, considering demographics, housing, economy and environment between 2010, through to 2012 and the next 20 years. This overview provides the essential backdrop to the rest of the report.

We then examine three **drivers of change** in rural Scotland: towns (Section 2), the private sector (Section 3) and the third sector (Section 4).

We look at two **infrastructural and technological developments and possibilities** that enhance rural Scotland's contribution: next generation broadband (Section 5) and low carbon futures (Section 6).

Finally, in Section 7 we distil this wealth of evidence and commentary into Key Messages, identifying what these mean for national and rural policy.

The evidence presented in this report demonstrates the ways in which rural Scotland is already contributing to the Government's National Outcomes of thriving and resilient communities, social inclusion, environmental responsibility, and business excellence. We also highlight how, through investments in technology and other infrastructural means, rural Scotland can build on its successes and deliver more for the wellbeing of Scotland as a whole. The diversity of rural Scotland enhances this potential.

In 2011, the Rural Affairs and Environment Committee noted[1] that:

"Traditional industries no longer employ as many people as they did, whilst improved transport links and technology are enabling people to live and work in rural areas where previously they would have had to live in cities. Some rural areas are thriving, whilst others are in demographic and economic decline. In short, what it means to live and work in rural Scotland is very different to how it was even 20 years ago" (Point 51).

In this, the second Rural Scotland in Focus Report[2], we have set out many aspects of what it means to live and work in rural Scotland. In coming years we will continue improving and expanding shared understanding of rural Scotland's changing characteristics, challenges and possibilities, feeding this evidence- base into policy and practice.

Ro-ràdh

'S e adhbhar nan Aithisgean Alba Dhùthchail fon Phrosbaig gum bi tuigse nas fheàrr againn uile air Alba dhùthchail san 21mh linn. Bheir sinn geàrr-iomradh dhuibh air farsaingeachd de dh'fhianais is breithneachadh air co ris a tha Alba dhùthchail coltach agus a' bhuaidh a bhios aig sin, maille ri taghadh farsaing de theacsaichean eile air an ainmeachadh do leughadair lem bu toil tuilleadh fiosrachaidh. Tha e san amharc dhuinn na deasbadan a tha gan cumail a phiobrachadh agus cur ri còmhraidhean a tha togail air cùisean co-cheangailte ri poileasaidhean is dòighean-obrach.

Ann an Aithisg 2012 bho Cholaiste Àiteachais na h-Alba, tha sinn a' toirt sùil gheur air trì prìomh chuspairean: atharraichean agus gluasadan san àm ri teachd; na bunaitean tron tig atharraichean; agus leasachaidhean sa bhun-structair agus teicneòlas.

Tha sin a' comharrachadh **atharraichean is gluasadan** ann an Earrainn 1, agus sinn a' coimhead air atharraichean san t-sluagh, taigheadas, an eaconamaidh agus an àrainneachd eadar 2010 is 2012, agus san ath fhichead bliadhna. Tha an dealbh farsaing seo na bhun-stèidh airson an còrr den aithisg.

Tha sinn an uair sin a' toirt sùil air trì **bunaitean tron tig atharraichean** ann an Alba dhùthchail: bailtean (Earrainn 2), an roinn phrìobhaideach (Earrainn 3) agus an treas roinn (Earrainn 4).

Bheir sinn sùil cuideachd air **leasachaidhean is cothroman a thaobh a' bhun-structair agus teicneòlas** a bheir piseach air mar a tha Alba dhùthchail a' soirbheachadh: an ath ìre den bhann-leathann (Earrainn 5) agus a' lùghdachadh sgaoilidhean carbon san àm ri teachd (Earrainn 6).

Mu dheireadh, ann an Earrainn 7 tha sinn air brìgh an stòrais seo de dh'fhianais is breithneachadh a chur an cèill ann an taghadh de Phrìomh Abairtean, agus sinn ag innse dè tha iad sin a' ciallachadh a thaobh phoileasaidhean nàiseanta is dùthchail.

Tha fianais na h-aithisge a' sealltainn mar a tha Alba dhùthchail mu thràth a' cur ri Builean Nàiseanta an Riaghaltais agus iad ag amas air coimhearsnachdan làidir is seasmhach, in-ghabhail sòisealta, cùram mun àrainneachd, agus sàr-mhathas ann an gnìomhachas. Tha sinn cuideachd a' dèanamh follaiseach gun urrainn do dh'Alba dhùthchail togail air mar a tha i a' soirbheachadh, tro bhith a' cur airgead an seilbh teicneòlas is seòrsaichean bun-structair eile, a bheir piseach air math na h-Alba air fad. 'S ann air sgàth nan iomadh raon is taobh a th' air Alba dhùthchail a tha an comas seo aca.

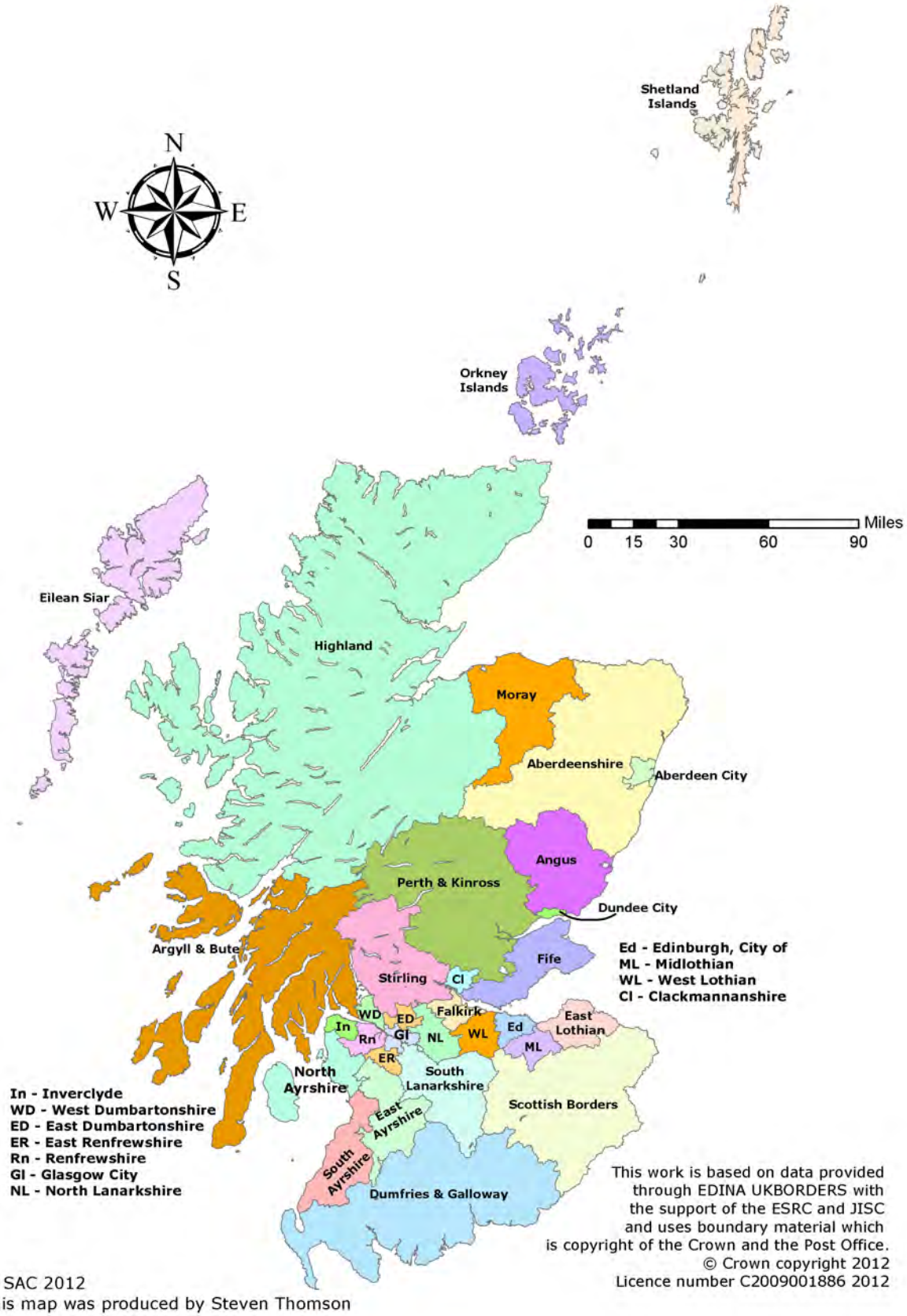
Ann an 2011, thug Comataidh Cùisean Dùthchail agus na h-Àrainneachd fa-near[1] do:

"Chan eil gnìomhachasan traidiseanta a' toirt cosnadh don uiread de dhaoine 's a b' àbhaist dhaibh, agus aig an aon àm tha ceanglaichean ùra tro chòmhdhail is teicneòlas a' toirt cothrom do dhaoine fuireach is obair ann an sgìrean dùthchail an àite a bhith air an tarraing gu na bailtean mòra. Tha cuid a sgìrean dùthchail a' soirbheachadh gu mòr, ach tha feadhainn eile far a bheil an sluagh agus an eaconamaidh a' crìonadh. 'S e a' bhuil, chan eil e idir mar a bha e a bhith fuireach is ag obair ann an Alba Dhùthchail, fiù 's o chionn 20 bliadhna" (Puing 51).

San dàrna aithisg seo fon ainm *Alba Dhùthchail fon Phrosbaig*[2], tha sinn air coimhead air a' cheist, co ris a tha coltach a bhith fuireach is ag obair ann an Alba dhùthchail, bho iomadach sealladh. Sna bliadhnaichean a tha romhainn cumaidh sinn oirnn a' leasachadh agus a' leudachadh na tuigse a th' aig daoine air gach dùbhlan is cothrom a tha ro agus aig Alba dhùthchail agus mar a tha iad sin agus i fhèin ag atharrachadh; agus cuiridh an stòras sin de dh'fhiosrachadh ri poileasaidhean agus dòighean-obrach.

[1] 7th Report, 2011 (Session 3), SP Paper 659: http://archive.scottish.parliament.uk/s3/committees/rae/reports-11/rur11-07.htm
7mh Aithisg, 2011 (Seisean 3), SP Pàipear 659: http://archive.scottish.parliament.uk/s3/committees/rae/reports-11/rur11-07.htm

[2] This is the second Rural Scotland in Focus Report. The first was published in 2010. Click here to download: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/rsif/
'S e seo an dàrna Aithisg, Alba Dhùthchail fon Phrosbaig. Chaidh a' chiad tè fhoillseachadh ann an 2010. Briog an seo gus a luchdachadh a-nuas: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/rsif/



This map was produced by Steven Thomson

1. How have Scotland's rural population, economy and environment changed since the 2010 report?

Introduction

In the Rural Scotland in Focus 2010 Report, we set out: how rural Scotland's population was changing, how resilient the rural economy was to the current economic crisis, and examined a range of environmental issues (climate change, water quality, farmland and upland biodiversity). In this Section of the 2012 Report, we revisit these themes of population, economy and environment, to examine what has changed in the intervening two years, and what is likely to occur in the coming years.

1.1 An update on population and housing trends in rural Scotland

Steven Thomson

Key Points

1. Current projections estimate that Scotland's rural population will grow by 10% by 2035. However there is considerable variation in the rate of change across rural Local Authorities, ranging from 32% growth in Perth and Kinross to 11% decline in Eilean Siar. Migration is the key contributing factor where there is expected population growth. However, in areas where the population is expected to fall the level of expected migration is not enough to compensate for anticipated natural population decline (births minus deaths) – this is expected in those areas currently exhibiting more aged populations with fewer children (e.g. Dumfries and Galloway, Argyll and Bute, etc).
2. Overseas migrants have played an important role in growing Scotland's rural population in recent years and this, alongside domestic migration, means that the social and cultural dynamics of our rural populations have already changed and are continuing to change. This is creating demands and requirements for new products and services.
3. The ageing of rural Scotland's population in the next 20 years will put significant pressures on health care facilities. Estimates suggest that primary care expenditure on over 65 year olds could increase by 70% by 2033 without changes to the system and that the amount spent on free personal care could increase by 200% by 2033 unless costs or eligibility are reduced. Serious debate about, and budgeting for, the future of these services (and state pensions) will be required over the next 5 years.
4. Many rural areas have high average house prices and it appears that lower valued housing has been liable to larger swings in value (compared to the top end of the market) during the last decade. This inflation (pre-2008) was particularly noticeable in areas popular with commuters, second home owners and retirees. These competing factors undoubtedly impacted on rural house price inflation, meaning it has been harder for local, young families to get on the property ladder in their chosen locations as house price growth out-stripped wage inflation. Now that the market has declined, young families are still unable to get on the property ladder due to tightening of mortgage lending requirements.
5. Increased life expectancy, migration and increased single adult households are all expected to cause significant housing pressures across rural Scotland – particularly the more accessible areas. Empty homes are a particular problem in some rural areas and the Scottish Government is taking steps to address the problem through changes to Council Tax legislation and initiatives such as the Scottish Empty Homes Partnership that is coordinated by Shelter. In addition, the Highland Council's Landbank shows innovative ideas to secure strategic housing sites which are being adopted to ensure adequate affordable housing stocks are available.

In the first part of Section 1.1 we address three key themes: population, housing and house price dynamics.

1.1.1 Population

The 2010 Rural Scotland in Focus report highlighted the shifts in rural Scotland's population dynamics that have been occurring through changes in fertility rates, life expectancy and migration. Understanding future population dynamics is essential for all levels of Government to enable planning for, and developing policies that will meet the future needs of, Scotland's rural population. These can help us understand future housing, healthcare and education needs and can allow predictions of likely future sources and allocations of central and local finance and help identify where potential bottlenecks will be.

Using Randall's definition of rurality[1], recently published estimates by National Records of Scotland (NRS)[2] suggest that most of Scotland's rural Local Authorities (LAs) are going to experience growing populations over the next 20 years. It should be noted at the outset that the NRS estimates are trend based and do not account for differing policies that may be adopted by local and central government, which are often designed to modify past trends. The average predicted rate of change in 14 rural LAs is 10.1% (marginally lower than urban LAs) although the there are wide geographic variations across these LAs.

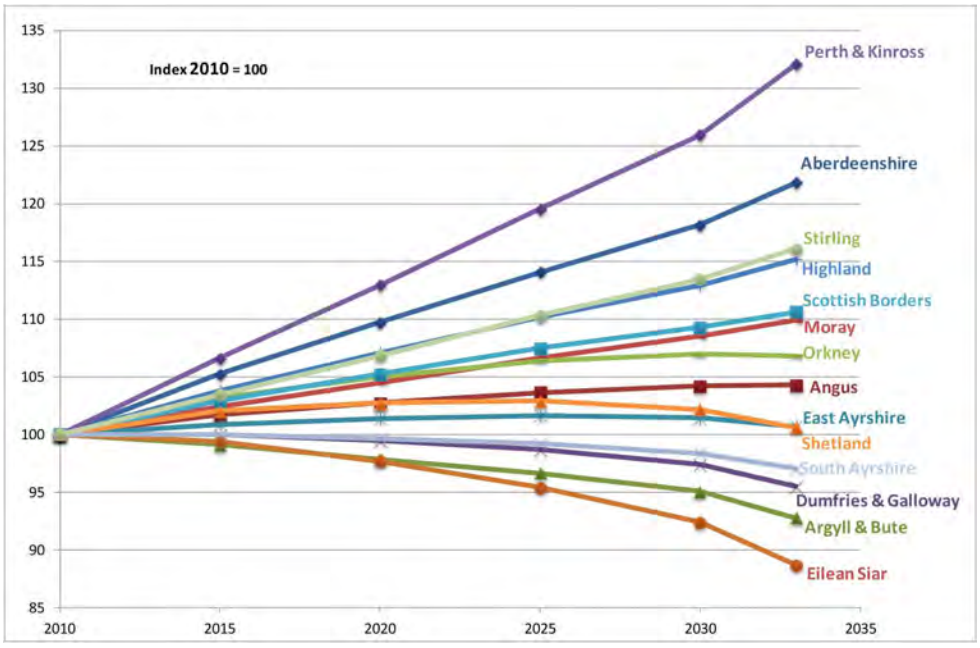
Figure 1 reveals that those LAs with cities within their boundaries are where the largest growth is predicted, with more peripheral LAs expected to see their populations decline over the period - there is also a noticeable East - West split, with the exception of the Highland Council area. Between 2010 and 2035 only East Lothian[3] (33%) has a higher predicted population growth rate than Perth and Kinross (32%) and Aberdeenshire's population is expected to grow (23%) at similar rates to the cities of Edinburgh (26%) and Aberdeen (25%). In contrast Eilean Siar's population is expected to fall by over 11% by 2035, with the more urban Inverclyde (16.7%) expected to decline more. Other west coast areas in Argyll and Bute (-7.2%), Dumfries and Galloway (-4.7%) and South Ayrshire (-3%) are all expected to have population decreases over the period.

[1] An area is defined as rural if the population density is less than 100 persons per square kilometre – see http://www.gro-scotland.gov.uk/files2/stats/population-estimates/mid-2010/10mype-cahb-t9.xls for population densities

[2] From 1 April 2011, the General Register Office for Scotland merged with the National Archives of Scotland to become the National Records of Scotland.

[3] Despite being quite rural in appearance, the many towns in the area mean that it is classed as an Urban LA.

Figure 1 Index of Predicted Population Change by Rural Local Authority (2010-35)[4]



Source: National Records of Scotland[5]

The sources of predicted demographic change in these rural LAs is shown in Figure 2 where it becomes apparent that population migration is a key determinant of the size of future populations[6]. Only Aberdeenshire (5.6%), Stirling (3.1%), Perth and Kinross (1.8%) and Moray (0.9%) are predicted to have natural population growth (more births than deaths). Each of these areas has high proportions of younger adults and children (as detailed in the 2010 Rural Scotland in Focus report) that are indicative of higher average incomes and higher degree of commuting to cities for work in accessible areas. In contrast, natural population change in Eilean Siar is expected to lead to further population decline of 16.7% by 2035 with natural decreases of around 7.5% also being predicted in Argyll and Bute, Dumfries and Galloway and South Ayrshire. These areas where higher natural decreases are predicted all currently have higher proportions of older people within their populations.

In contrast to natural population change between 2010 and 2035, net migration is expected to be positive in all areas, offsetting natural population decline or adding to natural population decrease. In some areas, such as Argyll & Bute (0.6%) and Shetland (0.9%), net migration is not going to considerably affect the total population, but in the more accessible areas linked to cities the population growth attributable to net in-migration is significant. For example, over the 25 year period to 2035 Perth and Kinross' population is expected to rise by 30.3% due to migration, with Highland and Aberdeenshire expected to have 16.2% migrant-led population increases.

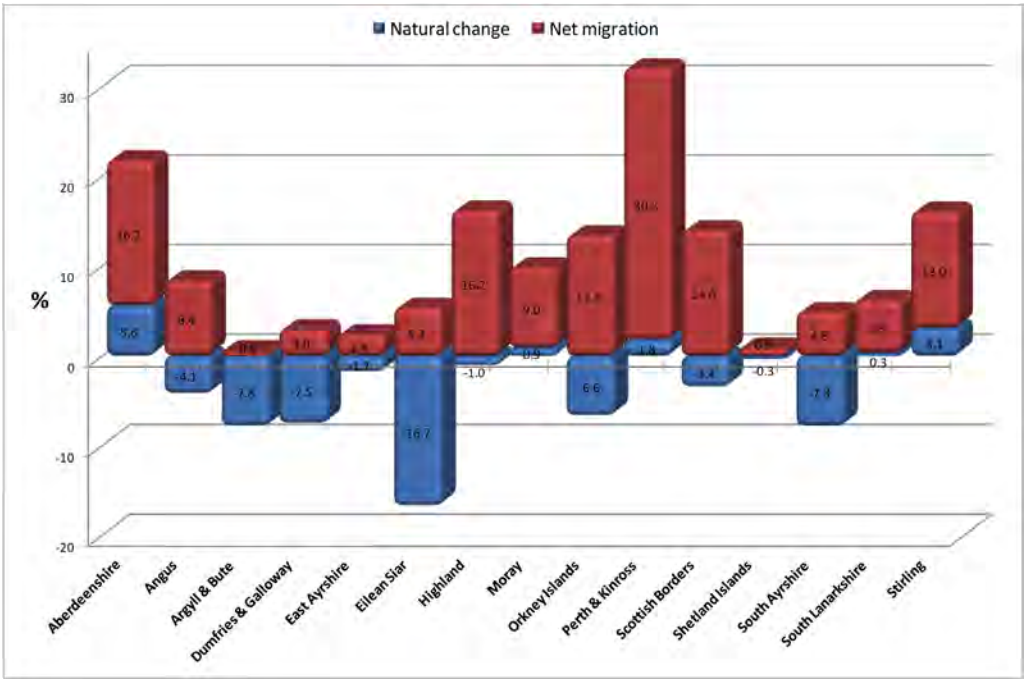


Figure 2 Components of Predicted Population Change by "Rural" Local Authority 2010-2035

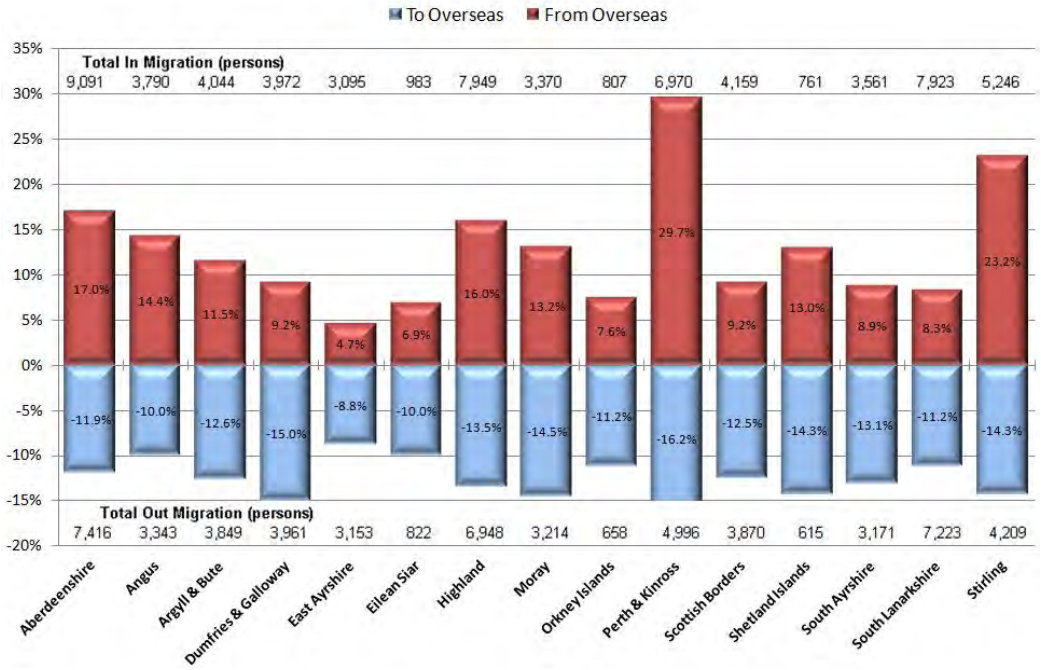
The majority of these migrants are from within the UK but despite the economic downturn the proportion of total in-migrants that

[4] http://www.gro-scotland.gov.uk/statistics/theme/population/projections/index.html
[5] http://www.gro-scotland.gov.uk/statistics/theme/population/projections/index.html
[6] Yet ironically it is the most difficult component of population change to estimate due to no comprehensive recoding system for migration being used.

come from overseas has continued to rise in most rural LAs over the last decade. Figure 3 reveals how nearly 30% of all migrants to Perth and Kinross and 23% of in-migrants to Stirling in 2009/10 originated abroad, likely influenced by overall migration to the cities of Perth and Stirling. Foreign migrants are important for most of the rural LAs but account for less than 10% of all in-migrants in Dumfries and Galloway, South Ayrshire, East Ayrshire, Orkney Islands, Scottish Borders and Eilean Siar. These areas are more reliant on UK migrants to maintain their population and these areas have also had lower levels of foreign in-migration annually over the 2006 to 2009 period.

Figure 3 also shows the proportion of total out-migration to overseas destinations for each rural LA. This shows that some rural LAs saw greater emigration to foreign destinations than foreign immigration during this year. For example Dumfries and Galloway and the Borders both had net foreign out-migration of 230 and 102 people in 2009/10 in contrast to Perth and Kinross' net foreign in-migration of 1,262 people.

Figure 3 Proportion of total migrants from, or leaving to, overseas locations, 2009/10

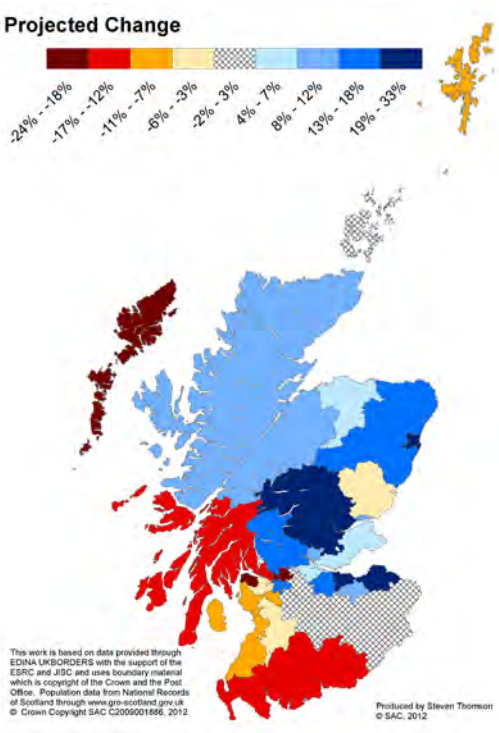


Source: National Records of Scotland[7]

The accumulated effects of historic migration means that the dynamics of rural populations have already changed and are continuing to change, with many parts of Scotland becoming increasingly diverse in terms of languages and cultures, which can impact on the provision of both public and private goods and services in some areas (e.g. need for translation services, opportunities to supply foreign products, etc.). These migrants are also important in maintaining birth rates throughout Scotland. The General Registry Office for Scotland's Migration Reports estimated that in 2009 14% of all births in Perth and Kinross were to non-UK born mothers, with 13% in Highland and Stirling, 11% in Aberdeenshire, 10% in Argyll and Bute, Angus, Eilean Siar, Moray and the Scottish Borders with 8% in Shetland in Dumfries and Galloway. Whilst these figures may appear high they are actually quite low compared to urban local authorities such as Aberdeen City (30%), Glasgow City (24%) and Edinburgh City (27%). They do, however, show how important migrants have become to growing Scotland's population and meeting the Scottish Government's objective to "match average European (EU15) population growth over the period from 2007 to 2017."[8]

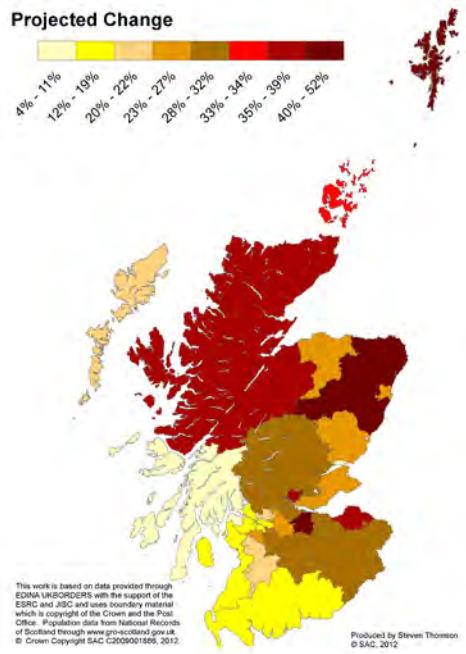
Not only is the population of rural Scotland expected to grow over the next 20 years, there will also be significant changes to our demographic structure beyond migration, particularly through a rapidly ageing population. Figure 4 highlights the predicted change to Scotland's working age population between 2010 and 2035. What is immediately noticeable is the large decrease that is expected in Eilean Siar (-19.5%), Argyll and Bute (-14.4%) and Dumfries and Galloway (-13.1%) with declines also expected in Ayrshire, Shetland and Angus. In contrast, Perth and Kinross' working age population is expected to increase by 32.7%, with East Lothian increasing by 28.6% and Aberdeenshire (15.1%) Stirling (13.6%) and Highland (8.8%) also expected to see increases. It is immediately evident that the areas of predicted working population decline currently have a more aged population, low levels of in-migration and are projected to have total population decline. The areas where growth is predicted currently have high proportions of children, are areas of higher in - migration and have large population growth predicted.

Figure 4 Predicted Changes in Working Age Population (2010-2035)



[7] http://www.gro-scotland.gov.uk/statistics/theme/migration/mig-stats/within-scotland.html
[8] http://www.scotland.gov.uk/About/scotPerforms/purpose/population

Figure 5 Predicted change in Pensionable Age Population (2010-2033)



As more people live longer we are experiencing an increasingly ageing population. In contrast to the predicted changes in the working population, it is predicted that there will be rapid growth in the pensionable age populations of Aberdeenshire (49.7%), Shetland (47.5%) and Orkney (34.5%). Argyll and Bute is predicted to have the lowest increase in elderly population (9.8%) of the rural LAs, with Dumfries and Galloway, South Ayrshire, and North Ayrshire also predicted to have relatively low increases in pensionable aged population (they have low predicted immigration and are already quite aged areas).

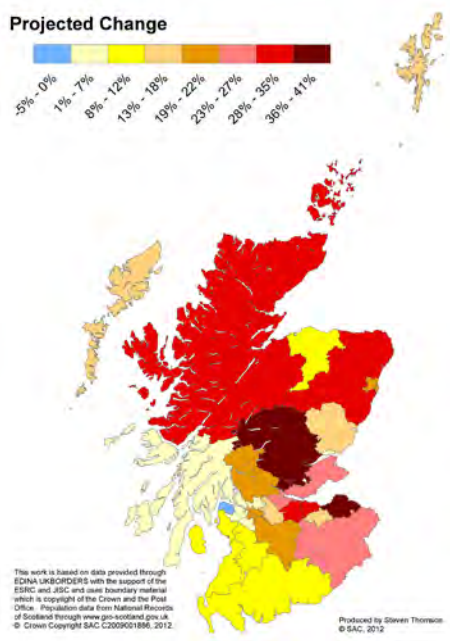
An ageing population impacts on many areas of Scottish society including rural affairs, health, housing, infrastructure, social welfare, culture, economy, employment, politics, justice, etc. These demographic changes pressurise available services, particularly healthcare but will also put pressure on Scotland's system of universal benefits (free personal and nursing care, free prescriptions and bus passes, etc) as well as having a greatly increased budgetary cost through public pension provision. Care for the over 65s accounts for about 40% of the health service budget and 60% of the social work budget in Scotland[9]. It is estimated that under current projections and systems of care there would need to be a real increase of 24% and 74% (£3.5 billion) in investment in health and social care services for older people respectively[10]. Jeannet (2010)[11] also estimated that primary care expenditure on over 65 year olds could increase by 70% by 2033 without changes to the system and that the amount spent on free personal care could increase by 200% by 2033 unless costs or eligibility are reduced.

Will the Government increase the pension age even further to reflect increases in life expectancy? Or will further additional pension contributions become the norm to help pay for our increased retirement periods? Will the Scottish Government revise universal benefits for the elderly given the increased activity of those in pensionable age (with some choosing to continue working and others engaging in voluntary work or caring for family members)? Or will the Scottish Government continue to argue[12] that universal health benefits are a form of preventative spending helping to keep people out of more costly residential and hospital care (in 2010 the average weekly charge for elderly care home residents was £520 without nursing care and £598 with nursing care[13]). For certain these are issues that will require close monitoring and budgeting in the next few decades.

1.1.2 Housing

As a result of these predicted demographic trends there will be changing service needs in rural Scotland, with some reduction in need in some more remote areas but considerable pressure on existing services in the more accessible rural LAs. In addition to housing pressures arising from growing populations, there will also be demand for additional housing through increased single occupant households, meaning there will even be additional housing requirements in those areas where population is expected to decline (such as Eilean Siar, Argyll and Bute and Dumfries and Galloway). NRS estimate that single adult households will increase from 36% of all households in 2008 to 45% in 2033. This combination of factors means that NRS predict that the number of households will grow by 180,000 (21.3% of 2008 housing stock) in the rural LAs by 2033, therefore putting pressure on suitable land and on services such as water and sewerage. Figure 6 reveals the LAs which are likely to face the biggest housing pressures over the next 20 years (using current demographic trend projections): East Lothian (40% projected increase in households), Perth and Kinross (38%), Aberdeenshire (35%), Orkney (32%), Highland (30%) and the Borders (27%).

Figure 6 Projected Future Housing Requirement, 2008-2033



This means that there will need to be careful planning of where this additional demand is going to be met (through Strategic Housing Investment Plans), to meet the Scottish Government's vision for Housing in 2020[14], including private and public sector new build developments, self builds, joint equity ventures and bringing empty homes back into use. There are already difficulties in some areas in accessing suitable land for housing development (particularly of affordable housing) and LAs such as Highland Council have long recognised[15] that housing shortages are constraining social and economic growth of the Highlands. Highland Council have developed a Landbank fund to enable *"strategic sites to be secured or prepared for development for housing purposes either by purchase by the Council or by providing loans to partner organisations"* and they have committed that *"all surplus Council property and land in stressed areas be prioritised for housing use."*

[9] Scottish Executive (2005) National Framework for Service Change in the NHS in Scotland – Care of Older People.
[10] Reshaping Care for Older People: A Programme for Change 2011-2021 http://www.scotland.gov.uk/Resource/Doc/924/0114884.pdf
[11] Jeannet, A (2010) The spending implications of demographic change. SPICE Briefing 10/60 www.scottish.parliament.uk/SPICeResources/.../SB10-60.pdf
[12] Reshaping Care for Older People: A Programme for Change 2011-2021 http://www.scotland.gov.uk/Resource/Doc/924/0114884.pdf
[13] Care Home Census 2010 www.isdscotland.org/...Care/.../2011-06-28-CHCensus-Report.pdf
[14] http://www.scotland.gov.uk/Resource/Doc/340696/0112970.pdf
[15] http://www.highland.gov.uk/NR/rdonlyres/9C94BE51-CF00-4465-9943-FA9083853BE0/0/Item5HSW2012.pdf

Table 1 highlights how second homes and vacant homes are a particular characteristic of remote rural areas, where it is estimated that 12,777 (7.4%) dwellings are used as second homes whilst a further 4.6% (nearly 8,000) are vacant/empty. Accessible rural areas also have a higher proportion of vacant houses (8,800 or 3.2%) than the Scottish average.

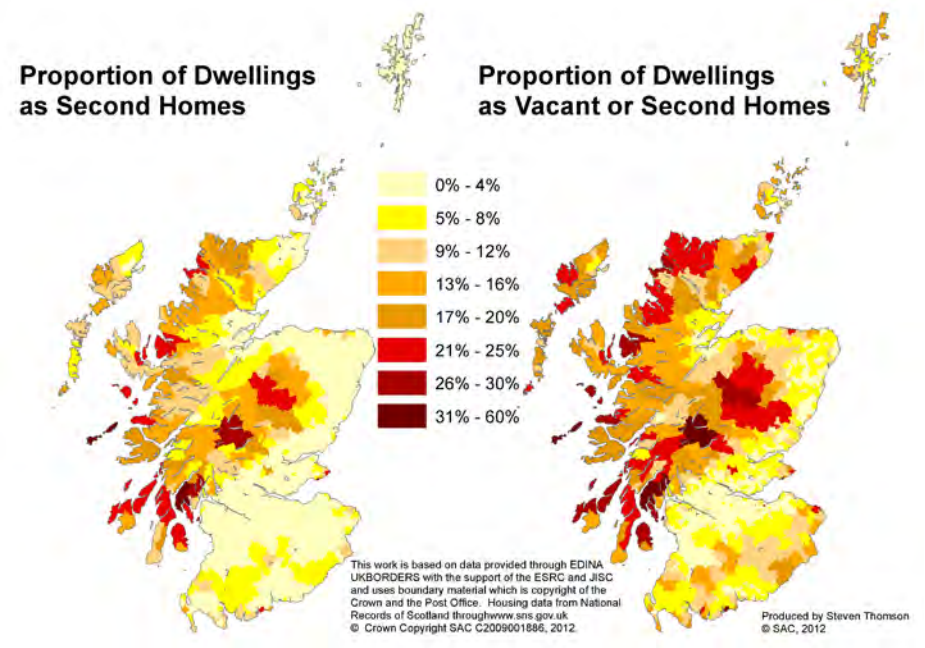
Table 1 Proportion of housing stock classed as vacant or second homes (2010)

	Proportion of Housing Stock that is:		
Area	**Second Homes**	**Vacant Homes**	**Second and Vacant Homes**
Large urban	0.9%	2.6%	3.5%
Other Urban	0.7%	2.5%	3.2%
Accessible Towns	0.8%	2.4%	3.2%
Remote Towns	2.0%	2.8%	4.8%
Accessible Rural	1.7%	3.2%	4.9%
Remote Rural	7.4%	4.6%	12.0%
Scotland	**1.4%**	**2.8%**	**4.2%**

Source: NRS accessed through Scottish Neighbourhood Statistics www.sns.gov.uk

High proportions of second homes lead to house price inflation and can lead to housing shortages, particularly in terms of accessing affordable housing for lower income, local families who may be forced to migrate from a locality in order to access affordable housing. Equally, empty homes lead to a reduction in the overall housing stock in an area, meaning additional hurdles are placed on those looking for a residential dwelling to rent or buy. Whilst Table 1 showed the rural urban dimension of this problem, Figure 7 reveals how it is a more prevalent problem in some parts of the country.

Figure 7 Proportions of Second and Vacant Homes, 2010



It is particularly noticeable that areas in the Highlands and Islands tend to suffer considerably higher levels of second home ownership and vacant dwellings than the South and East of the country. For example, second homes account for 35% of the housing stock in the Cowal peninsula, 31% in Coll and Tiree, 29% in the Kinloch Rannoch area (including Killin, Kenmore, Aberfeldy, etc) and 25% in the Applecross peninsula. It is also problematic in the Cairngorms around Boat of Garten, Carrbridge and Nethy Bridge and in Jura, Islay and Arran. Each of these areas also has a further 3-4% of housing stock lying empty. Empty homes are a particular problem in some areas, accounting for 19% of all dwellings around John O'Groats, 13% in the Angus Glens, 14% around Caithness, 13% in Newcastleton and Teviot in the Borders and 12% in the area around Tomintoul in the Cairngorms. When combined it means there are many local areas in rural Scotland where nearly half the housing stock is being used as second/holiday homes or is lying empty.

Television programmes such as Channel 4s *The Great British Property Scandal* [16] and subsequent campaign[17] have helped draw attention to the issues surrounding empty homes, particularly their scope to house families that do not have adequate housing. The Scottish Government have recently taken steps to try and bring empty homes back into residential use through their funding of the Scottish Empty Homes Partnership[18] that is coordinated by Shelter. This exists to help LAs and their partners to bring private sector empty homes back into use. This is seen as a cost effective method of increasing the available housing stock, as refurbishment is estimated to be less than a quarter of the cost of a new build, coupled with the fact that the infrastructure and local services already exist for these empty homes. In addition the Scottish Government have recently had a consultation on Council Tax On Long-Term Empty Properties[19] where they propose to introduce legislation to allow LAs the discretionary power to remove the council tax discount currently in place for long-term empty properties, and also to allow them to instead charge a levy of up to 100% of the council tax rate for long-term empty houses. This has now been introduced as the Unoccupied Properties Bill[20] to the Scottish Parliament targeting properties that have been empty for more than a year. It has been estimated that the empty property levy, if fully charged and collected,

[16] http://www.channel4.com/programmes/the-great-british-property-scandal/
[17] http://www.channel4.com/programmes/the-great-british-property-scandal/articles/news/
[18] http://scotland.shelter.org.uk/housing_issues/more_homes/empty_homes
[19] http://www.scotland.gov.uk/Publications/2012/02/7761/
[20] Local Government Finance (Unoccupied Properties etc.) (Scotland) Bill http://www.scottish.parliament.uk/parliamentarybusiness/Bills/48900.aspx

could raise about £22 million revenue per year (averaged over 4 years and assuming 10% of homes being brought back into use per annum[21]. In addition the Bill will introduce a £2 million loan fund[22] targeted at projects to bring empty homes into use for affordable housing. In Cornwall, where there is a particular problem of vacant homes, the authorities have responded through their Empty Property Strategy[23] where they use financial incentive to encourage owners to bring empty homes back into use, failing which they propose using legislation that allows the LA to enforce (a) Empty Dwelling Management Orders - thereby running the property as the owner, or (b) Compulsory Purchase and Enforced Sales of properties.

1.1.3 House Prices

Second home ownership in rural Scotland has undoubtedly impacted on local house price inflation, meaning it has been harder for local, young families to get on the property ladder in their chosen locations as house price growth out-stripped wage inflation (as highlighted in Rural Scotland in Focus 2010). During 2011 there was considerable press coverage over the Bank of Scotland's analysis of house prices in Scotland[24], that showed between 2001 and 2011 average rural property prices increased by 101% from £79,104 to £158,293. They reported that Moray had the highest average house price inflation (162%) over the decade with prices more than doubling in the Highlands, Dumfries and Galloway and Perth and Kinross whilst Aberdeenshire had the highest average housing cost (£198,970).

Figure 8 shows the median house price across Scotland. This reveals how across much of Scotland, particularly on the east coast and central Highlands, mid range houses cost over £170,000 (red colours) with that figure rising to over £270,000 in accessible areas in Aberdeenshire, Lothians and the Borders. In direct contrast, mid-range house prices in Shetland, Eilean Siar and the North of Scotland are much more affordable being less than £111,000. Local house price patterns are, as one may expect, directly related to the prevalent types of housing in an area. Figure 9 reveals how there is a strong linkage between the median house price and the proportion of housing stock in specific council tax bands (which are based on the dwelling's value in 1991). The map shows how there is a very high proportion of Council Tax bands A to C in Shetland, the North of Scotland, Eilean Siar and to a lesser extent in Dumfries and Galloway. These map entirely onto the areas of lowest average house prices in Scotland - therefore helping to reveal the causal factors behind these prices. The pockets of higher proportions of the top Council Tax bands (F and G) also map very well onto areas of high median sale price, again helping to explain the differing house values across Scotland.

It is well reported that the housing market has suffered as a result of the economic downturn.[25] Tighter mortgage lending criteria operated by banks has stifled the first-time buyers' market meaning fewer properties are now coming onto the market. The annual turnover of housing stock (proportion being sold) only fell a small amount in remote rural areas (from 3.6% to 2.2%) between 2006 and 2010, whereas in accessible rural areas (5.3% to 2.5%) and accessible towns (5.1% to 2.3%) the decrease has been more marked. Figure 10 reveals how marked the change in housing stock turnover was between 2007 and 2010, particularly in the central belt and other accessible rural areas and towns. This reduced housing stock turnover has implications for banks and mortgage companies, solicitors and estate agents operating in these rural areas, as their client throughput is likely to have fallen dramatically over a short period.

Figure 8 Median house prices, intermediate geography, 2010

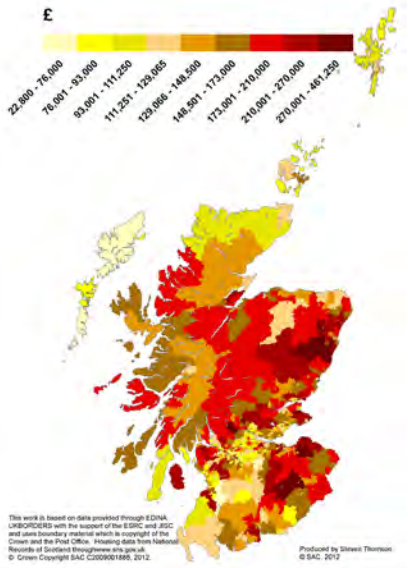


Figure 9 Housing Stock in Council Tax Bands, 2010

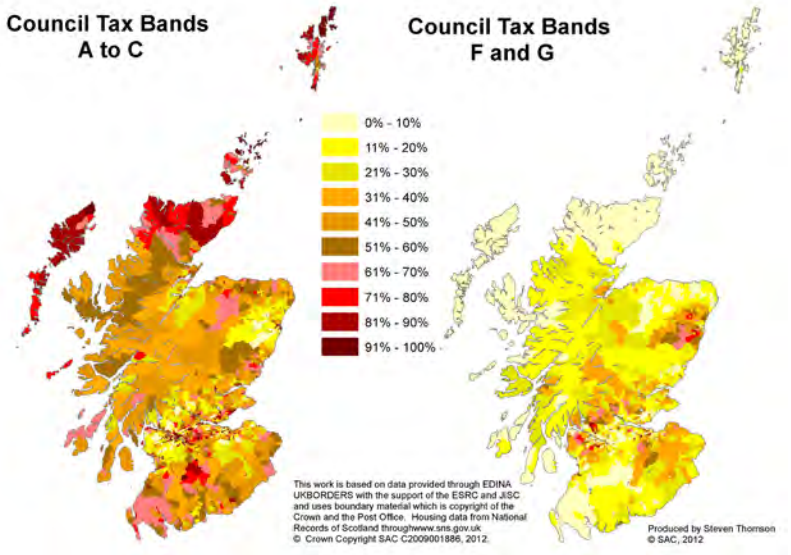
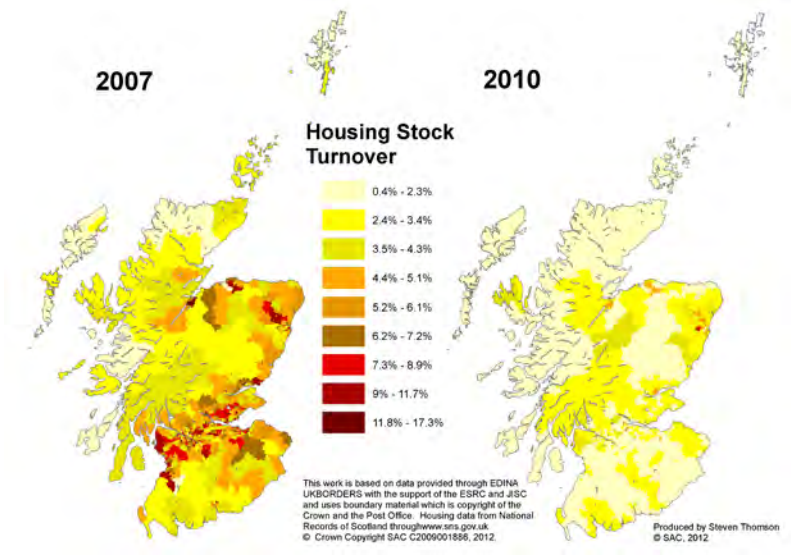


Figure 10 Housing Stock Turnover, 2007 and 2010



[21] http://www.scottish.parliament.uk/S4_Bills/Local%20Government%20Finance%20Unoccupied%20Properties/b12s4-introd-en.pdf
[22] http://www.scotland.gov.uk/News/Releases/2012/03/empty-homes27032012
[23] http://www.cornwall.gov.uk/idoc.ashx?docid=239c4fc3-42cc-47c7-96d3-aa34bb765095&version=-1
[24] http://www.lloydsbankinggroup.com/media/pdfs/bos/2011/RuralHousingMonitorScotland041011.pdf
[25] See for example http://www.bbc.co.uk/news/10620450

Figure 11 Changes in Lower Quartile House Prices

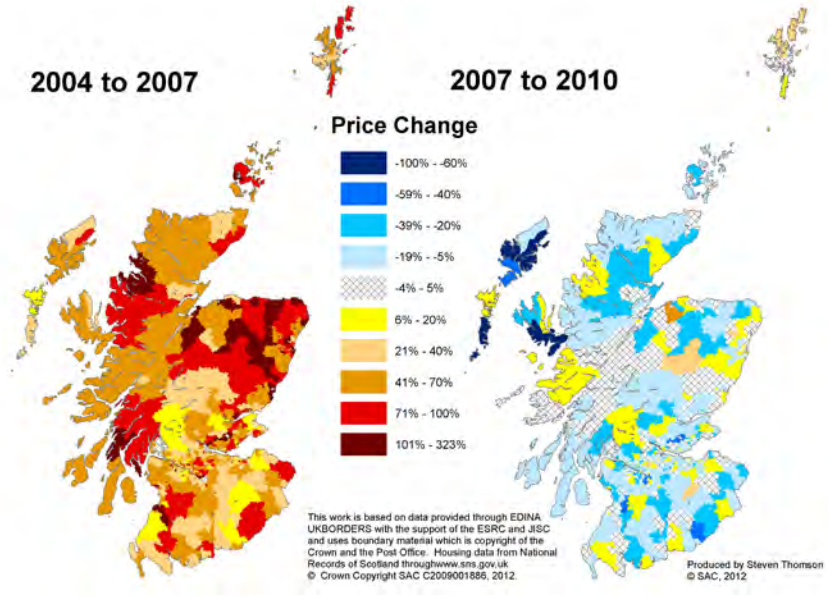
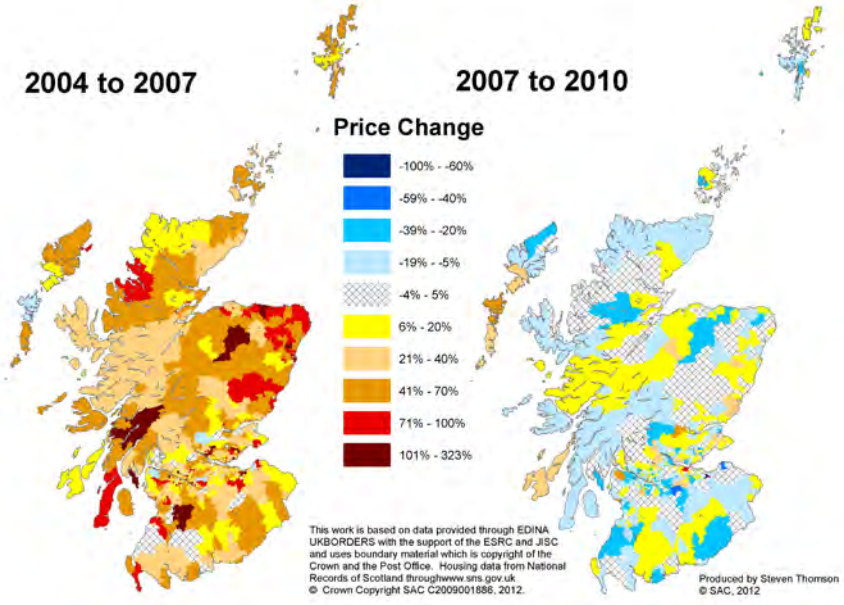


Figure 12 Changes in Upper Quartile House Prices



Figures 11 and 12 show how the lower and upper quartile house prices changed in the period before the economic downturn (2004-2007) and the period since the economic downturn (2007-2010). It is noticeable that in percentage terms, lower cost housing (Figure 11) appears to have undergone faster growth in the 2004 to 2007 period (more red and brown) compared to higher cost housing (Figure 12), particularly in the North East and west and central Highlands.

The pattern since the economic downturn (2007-2010) is slightly different with more stability (hashed) and some growth (yellow) in the higher priced housing, compared to the lower quartile house price, which had higher levels of decreases over 20% across Scotland. This is something that estate agents have been reporting - that the prime property market has recovered faster[26].

This perhaps suggests that lower valued housing is liable to larger swings in sales price during different stages of the economy, This is perhaps due to higher numbers of first time buyers utilising available credit pre-2007 to get on the housing market, leading to greater competition for first time buyers homes, fuelling rapidly increasing starter home price inflation. The opposite is true since 2007 as the banks and mortgage lenders have made first time borrowing much more difficult, meaning that there are few purchasers for the lower end of the housing market, so buyers that are there are in a strong negotiating position to negotiate the sales price down.

The changing demography of rural Scotland is going to create challenges to ensure adequate affordable housing is available to local residents, young and old. Areas such as Perth and Kinross, Aberdeenshire and the Lothians and the Borders all have current high average house prices. With rapidly growing populations there is likely to be increased demand for rural properties as the economy recovers, and migrants relocate in these regions. In addition, the increasingly ageing population in these areas over the next 20 years will mean there will be increased demand for different types of housing (as older households downsize and look for appropriately styled housing), and their wealth may mean that younger families are continually squeezed out of the market. This means that Strategic Housing Investment Plans developed by LAs must recognise where bottlenecks are likely to occur, and create investment plans and initiatives that will ensure there is adequate, affordable housing fit for our rural populations in the next 10 to 15 years.

[26] http://www.bellingram.co.uk/latest/blog/1428_all_rise_in_scotlands_top-end_property_market
http://www.bbc.co.uk/news/uk-scotland-scotland-business-15410478
http://www.djalexander.co.uk/news-and-press/196/2011/scots-lead-rise-in-prime-property-prices

1.2 An update on economic trends in rural Scotland

Cesar Revoredo-Giha, Alan Renwick, Philip Leat and Steven Thomson

Key points

1. During the 2008-09 recession, predominantly urban areas were the most affected by recessionary pressures with a decrease in their income of 3.2 per cent between 2007 and 2009.[1] Predominantly rural areas experienced a decrease of 1.9 per cent in income (similar to the national average) whilst income in the remaining areas (known as intermediate) actually increased by 1.1 per cent.
2. In rural areas a number of sectors were particularly hard hit including: construction, business services, other services and household activities, and real estate. However, there was growth in the production and the public administration, education and health sectors which partially offset the economic contraction in rural areas.
3. Between 2007 and 2010 the number of people in employment fell by a total of 4 per cent. In rural areas the decrease was 2.4 per cent and in non-rural areas 4.6 per cent. There were significant differences between rural areas with the highest decrease in employment in Southern Scotland (4.4 per cent). During the same period, unemployment increased by 50 per cent in the predominantly rural areas (although from a generally low starting point), which is an increase of 1.8 percentage points in the unemployment rate. In comparison, the increase in the unemployment rate in intermediate and urban areas during the period were 2.6 and 3.5 percentage points, respectively.
4. Longer run analysis of the impact of growth on unemployment highlights that growth in urban areas has a greater effect in terms of reducing unemployment than growth in rural areas. This may have important implications for policies aimed at reducing unemployment in Scotland.
5. Overall, the reviewed evidence suggests that whilst the rural areas suffered a contraction in economic activity in the 2007/10 period, they were slightly more resilient than Scotland's urban areas, which suffered higher rates of decline. However, there are marked differences in the impact across rural Scotland.

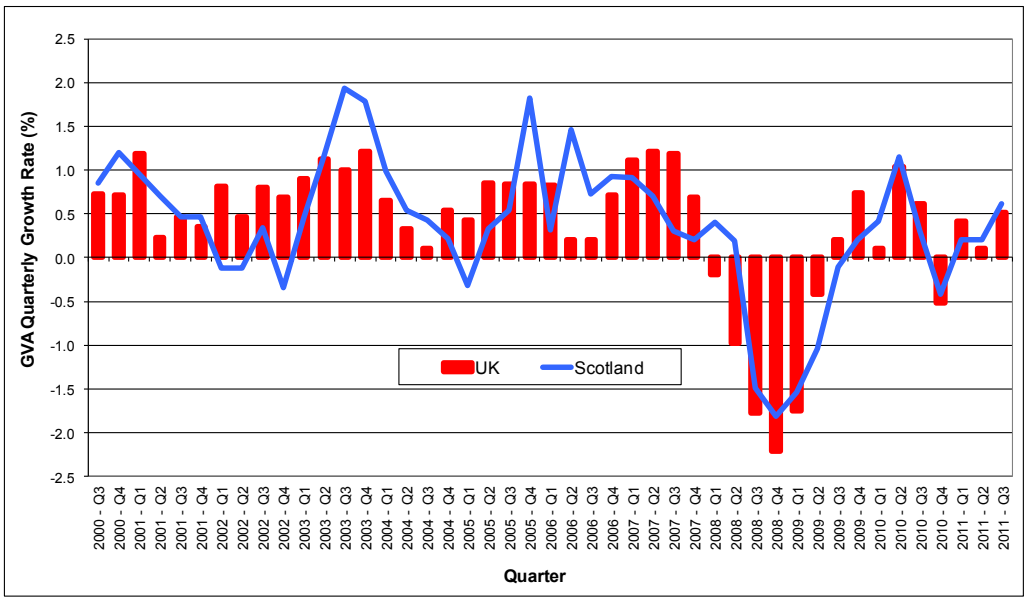
1.2.1 Introduction

Section 2 of the Rural Scotland in Focus 2010 report concluded that the economy of rural areas was slightly less affected than urban areas by the recession. This conclusion was reached by considering the differences between the economic structure of rural and urban areas (for example, differences in the importance of sectors such as agriculture, food and hotels and catering) and identifying the economic sectors that had been most affected by the economic crisis. However, although data was available for Scotland as a whole up to the 2nd quarter of 2009, more disaggregated data that enabled comparison between rural and urban areas was only available up to 2007 so a number of assumptions had to be made. For this 2012 update, the availability of more recent data enables a deeper analysis of the economic situation of rural areas during the recession period 2008-09 to be undertaken.

Before considering rural areas specifically, a brief overview of the most recent economic performance of the UK and Scottish economy, as measured by quarterly GVA growth and the unemployment rate, is presented.

Figure 13 presents the quarterly growth rate of GVA for the UK as a whole and Scotland. It confirms that the recession period (i.e., a quarterly decrease in income as measured by GVA) began in the UK during the first quarter of 2008 and lasted until the second quarter of 2009. In Scotland, the recession started and finished one quarter later than in the UK as a whole. Since the recession, growth rates have generally been positive with the exception of the fourth quarter of 2010 when GVA decreased in both in Scotland and the UK overall.

Figure 13: Quarterly real growth rate in GVA, UK and Scotland 2000-11



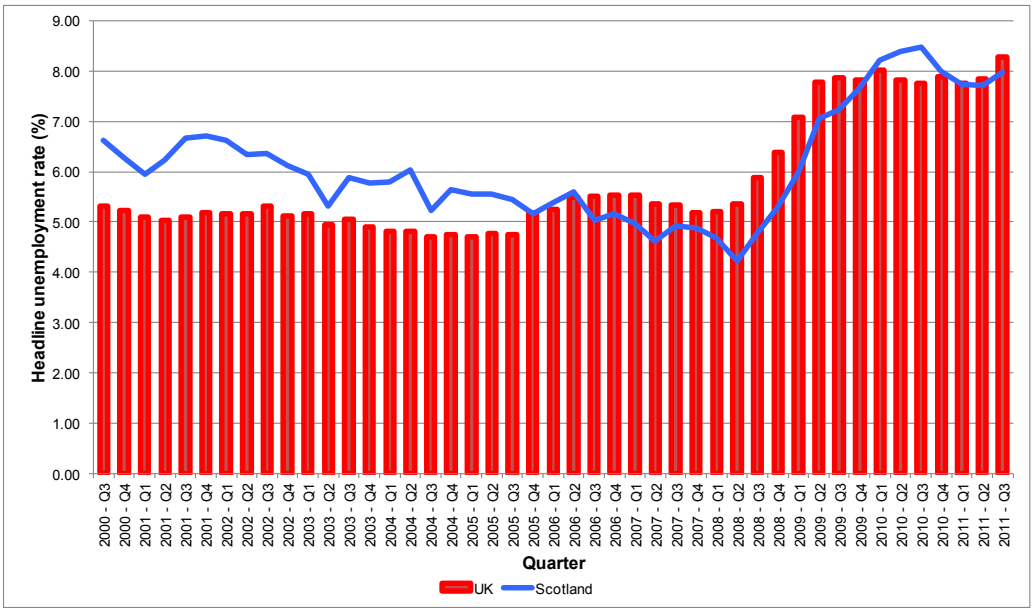
Source: Office for National Statistics.

[1] Income is measured as Gross Value Added (GVA). GVA measures the contribution to the economy of each individual producer, industry or sector in Scotland. GVA is defined as the value of an output (goods or services) less the value of inputs used in that output's production process. It is therefore the value added to raw materials and other goods and services by the economic sectors (agriculture, production etc).

Figure 14 shows the evolution of the unemployment rate in both the UK and Scotland over the same time period. From its low point during the 2nd quarter of 2008, the unemployment rate began to rise, peaking in the third quarter of 2010. Obviously the labour market responds to changes in the output market. However, there appears to be some degree of asymmetry in the response. That is, as output fell, an increase in the unemployment rate was felt quickly. However, the opposite was not true as the unemployment rate continued to increase well after output started to grow again and only started declining after the third quarter of 2010.

In the remainder of this section, three issues are explored using regional data[2]. First, the effect of the recession on rural areas is considered, focusing on the evolution of GVA by economic activity. Second, the labour market situation in rural areas is explored. Finally, the association between output growth and unemployment rate is considered.

Figure 14: Quarterly unemployment rate, UK and Scotland 2000-11



Source: Office for National Statistics.

1.2.2 Regional economic growth in Scotland

The regional analysis of economic growth is undertaken using the European classification as highlighted in Box 1.

Box 1 Area Classification

In order to analyse the situation of rural areas, an area classification is required. The European Commission (DG REGIO and DG AGRI) has an urban/rural typology classification that considers three groups: predominantly urban areas, intermediate areas and predominantly rural areas.

In Scotland, **predominantly urban** areas are: Angus and Dundee City, East Dunbartonshire, West Dunbartonshire and Helensburgh & Lomond, Edinburgh, City of Falkirk, Glasgow City, Inverclyde, East Renfrewshire and Renfrewshire, North Lanarkshire, South Lanarkshire, and West Lothian.

Areas considered as **intermediate** are: Aberdeen City and Aberdeenshire, Clackmannanshire and Fife, East Ayrshire and North Ayrshire mainland, East Lothian and Midlothian, Inverness & Nairn and Moray, Badenoch & Strathspey, Perth & Kinross and Stirling, and South Ayrshire.

Finally, **predominantly rural** areas are: Caithness & Sutherland and Ross & Cromarty, Dumfries & Galloway, Eilean Siar, Lochaber, Skye & Lochalsh, Arran & Cumbrae and Argyll & Bute, Orkney Islands, Scottish Borders, Shetland Islands.[3]

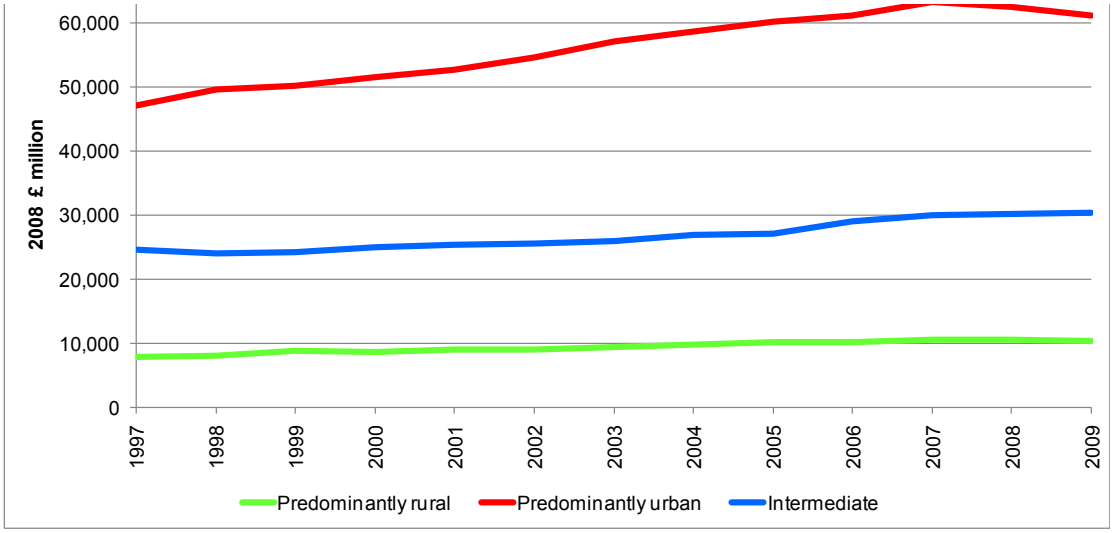
It should be noted that the intermediate regions contain some very diverse areas, e.g Aberdeen City is very different from West Aberdeenshire, i.e. this is a very broad brush classification, especially for some areas.

[2] The regional analysis by economic activity was undertaken using statistics at NUTS-3 level, which is the most disaggregated level at which GVA is estimated.

[3] For comparison purposes with Revoredo-Giha et al. (2010) the regions of 'Inverness & Nairn and Moray, Badenoch & Strathspey' and 'Caithness & Sutherland and Ross & Cromarty' were aggregated into one region and considered predominantly rural. This made the number of regions in the analysis 22.

Using the urban/rural typology as defined in Box 1, Figure 15 presents the evolution of real GVA. Growth in GVA was sustained in all areas up to 2008, although it was more marked in the urban areas. However in 2008, GVA in predominantly urban and rural areas decreased (again this was more marked in urban areas) whilst it flat-lined in the intermediate areas.

Figure 15: Real GVA by geographic area, 1997-2009



Source: Authors' elaboration based on data from the Office for National Statistics

Table 2 provides further analysis for rural areas in comparison with the other areas of Scotland. It shows growth by the urban/rural typology and also by economic activity from 2007 (when economic activity was at its peak) through to 2009 (the last year that full data is available for). In order to provide a better reflection of the importance of each economic activity (e.g. production, construction etc.) on overall growth (the total GVA of each area), their contribution was computed by weighting the growth rate for each economic activity by the share the activity had in total GVA.

Table 2: Real growth rate in sectoral GVA, 2007/09 1/ (percentages)

	Scotland	Areas		
		Predominantly rural 2/	Intermediate	Predominantly urban
Growth				
Agriculture, forestry and fishing	-8.3	-2.7	-12.0	-12.1
Production	5.9	6.1	13.2	-0.2
Construction	-14.0	-17.4	-11.6	-14.5
Distribution, transport, accommodation and food	-1.6	1.4	0.9	-3.5
Information and communication	-3.9	6.3	-3.8	-4.6
Financial and insurance activities	-2.8	-4.2	-2.0	-2.8
Real estate activities	-13.0	-6.8	-4.3	-16.4
Business service activities	-3.5	-13.3	-6.0	-1.1
Public administration, education and health	2.7	2.9	0.0	3.8
Other services and household activities	-7.6	-20.5	-7.2	-5.1
Contribution to area total growth				
Agriculture, forestry and fishing	-0.1	-0.1	-0.1	0.0
Production	1.1	1.1	3.4	0.0
Construction	-1.3	-1.8	-1.1	-1.2
Distribution, transport, accommodation and food	-0.3	0.3	0.2	-0.6
Information and communication	-0.2	0.1	-0.1	-0.2
Financial and insurance activities	-0.2	-0.1	-0.1	-0.3
Real estate activities	-0.9	-0.5	-0.2	-1.4
Business service activities	-0.4	-0.9	-0.7	-0.1
Public administration, education and health	0.6	0.7	0.0	0.8
Other services and household activities	-0.2	-0.8	-0.2	-0.2
Total GVA	-1.9	-1.9	1.1	-3.2

Source: Based on data from the Office for National Statistics
Notes:
1/ All the series were deflated using the UK sectoral deflators base 2008.
2/ Considers for comparison purposes a region "Highland and Islands" was made of the NUTS-3 regions 'Caithness And Sutherland and Ross And Cromarty' and 'Inverness & Nairn and Moray, Badenoch and Strathspey'.

Table 2 shows that during the 2008/09 recession, the predominantly urban areas were the most affected by recessionary pressures with a decrease in their real GVA of 3.2 per cent between 2007 and 2009. Predominantly rural areas experienced a decrease in real GVA by 1.9 per cent (similar to the rate for the entire Scottish economy) and 'intermediate' areas actually increased by 1.1 per cent. Whilst supporting the earlier finding in Rural Scotland in Focus 2010 that the rural areas were more resilient than the urban areas, this does suggest that the intermediate areas were in fact the most resilient to the recessionary pressures.

The decrease in the GVA of predominantly rural areas can be explained by the contraction in the construction (17.4 per cent), business service activities (13.3 per cent), other services and household activities (20.5 per cent) and the real estate activities (6.8 per cent) sectors. Whilst declines in these sectors did occur in all areas of Scotland, the extent and impact of the decline varied. For example, whilst the decrease in the construction sector strongly affected the predominantly rural areas (contributing 1.8 per cent to the decrease in GVA), the decrease in real estate activities had a greater effect on the predominantly urban areas (where it contributed 1.4 per cent of the 3.2 per cent decline). Not all rural sectors declined in the recession. For example, growth occurred in the production sector (6.1 per cent) and the public administration, education and health sector (2.9 per cent) and this partially offset the economic contraction in the predominantly rural areas.

1.2.3 The regional labour market in Scotland

As labour is a key component of economic activity, there is inevitably a close relationship between activity and employment. Therefore, the results shown in Table 3, which presents the growth rate in the numbers employed by economic activity and by the rural/non-rural typology are similar to those found in Table 2[4].

Comparing the growth rates in employment between 2007/09 and 2007/10, a deterioration in the situation can be observed, indicating that in 2010 the employment growth rate continued falling (i.e. unemployment continued to rise) despite the growth in income. Thus, whilst between 2007 and 2009 the number employed fell by 1 per cent (0.9 per cent in rural areas and 1 per cent in non-rural areas), the decrease reached 4 per cent overall (2.4 per cent in rural areas and 4.6 per cent in non-rural areas) by 2010.

The overall decline in employment in rural areas hides significant variation between rural areas. For example, breaking down rural areas into Highlands and Islands, Other Northern and Southern Scotland, one can see that most of the decrease in employment occurred in Southern Scotland (Dumfries & Galloway and the Scottish Borders), with a reduction of 3.2 per cent during the period 2007/09 increasing to -4.4 per cent from 2007/10. This has important implications for the targeting of policies to rural areas. It is interesting to compare this finding with respect to employment, with the analysis of the vulnerability of settlements across Scotland presented in Section 2 of this report. This analysis reveals a particular cluster of vulnerable settlements in southern Scotland, and particularly in the South West of Scotland.

Table 3: Growth rate in employment from 2007 to 2009 and 2010 1/ (Percentages)

	Scotland	Rural areas				Non-rural areas
		All	Highlands and Islands	Other Northern	Southern Scotland	
2007/09						
Growth rate						
Agriculture, forestry and fishing 1/	-14.9	-13.5	-3.7	-16.7	-19.6	-19.6
Production	-5.8	-5.4	-2.0	2.3	-16.7	-5.9
Construction	-2.5	-8.6	-10.6	-5.8	-11.0	0.1
Distribution, transport, accommodation and food	5.1	1.3	3.5	1.0	-0.7	6.6
Banking, finance, insurance, etc	-1.2	8.1	-4.3	15.5	12.8	-2.9
Public administration, education & health	-0.2	2.4	3.6	-0.3	3.9	-1.2
Other services	-19.8	-20.4	-16.7	-16.8	-27.5	-19.6
Contribution to employees total growth						
Agriculture, forestry and fishing	-0.2	-0.7	-0.2	-0.9	-0.9	-0.1
Production	-0.6	-0.6	-0.2	0.3	-2.3	-0.6
Construction	-0.1	-0.6	-0.7	-0.4	-0.6	0.0
Distribution, transport, accommodation and food	1.4	0.4	1.0	0.3	-0.2	1.8
Banking, finance, insurance, etc	-0.2	0.9	-0.5	2.0	1.1	-0.6
Public administration, education & health	-0.1	0.8	1.2	-0.1	1.3	-0.4
Other services	-1.1	-1.1	-0.8	-0.9	-1.5	-1.1
Employees growth	-1.0	-0.9	-0.1	0.4	-3.2	-1.0
2007/10						
Growth rate						
Agriculture, forestry and fishing /1	-7.1	-3.7	8.8	-6.8	-13.0	-18.6
Production	-10.1	-7.7	-7.1	1.0	-18.2	-11.1
Construction	-11.8	-15.4	-16.9	-12.9	-18.3	-10.2
Distribution, transport, accommodation and food	1.6	-3.1	-2.1	-2.9	-5.0	3.6
Banking, finance, insurance, etc	-7.7	2.4	-9.4	8.2	7.9	-9.6
Public administration, education & health	-0.1	4.4	6.2	0.5	6.2	-1.7
Other services	-20.7	-18.8	-13.9	-16.0	-26.5	-21.5
Contribution to employees total growth						
Agriculture, forestry and fishing	-0.1	-0.2	0.4	-0.4	-0.6	-0.1
Production	-1.1	-0.9	-0.7	0.1	-2.5	-1.2
Construction	-0.7	-1.0	-1.1	-0.9	-1.0	-0.5
Distribution, transport, accommodation and food	0.4	-0.9	-0.6	-0.9	-1.5	0.9
Banking, finance, insurance, etc	-1.4	0.3	-1.0	1.1	0.7	-2.1
Public administration, education & health	0.0	1.4	2.1	0.1	2.0	-0.5
Other services	-1.1	-1.0	-0.7	-0.8	-1.4	-1.2
Employees growth	-4.0	-2.4	-1.6	-1.6	-4.4	-4.6

Source: Based on data from the Business Register Employment Survey and the Annual Business Inquiry.
Notes:
1/ Figures adjusted to account for the crop and animal production, hunting and related service activities at local authority level.

Although the results in Table 3 generally tell a similar story to Table 2, further analysis by economic sector highlights some contrasting results. This is particularly the case for the production sector in rural areas. Here, whilst GVA actually grew by 6.1 per cent up to 2009, the number of employees fell (by 5.4 per cent up to 2009 and a further 2.3 per cent in 2010). This suggests that there may be some regional effects occurring here which are not captured in Table 1. For example, employment falls were particularly marked in the production sector in Southern rural areas (a fall of 16.7 per cent up to 2009 and 18.2 per cent by 2010). If these areas were less

[4] Employment figures are available for an addition year compared to GVA figures, therefore for comparison with Table 2, Table 3 includes not only the growth rate between 2007 and 2010 (the most recent year available) but also to 2009.

productive it might explain why output in the production sector actually increased across rural areas despite this fall in employment. It could indicate a significant improvement in the sector's productivity or some sort of dynamic adjustment. This may become clearer when the GVA figures for 2010 become available.

When comparing rural and non-rural areas in Table 3, it appears that the positive growth in employment in public administration in rural areas appears to have compensated to some extent for the decrease in the number of employees in other sectors. Thus, during the period 2007/10 the number of employees in public administration in rural areas grew by 4.4 per cent, whilst in non-rural areas it decreased by 1.7 per cent. However, again there were differences between rural regions, with growth of 6.2 per cent in the Highlands and Islands and Southern Scotland, but only 0.5 per cent in Other Northern Scotland. A key issue is whether the reverse will be true as the well publicised contraction in public services occurs. That is will growth in the private sector be sufficient to offset these declines. Further analysis of recent data on the proportion of employment provided in the private and public sectors in rural Scotland (presented in Section 3 of this report), suggests that the private sector may have demonstrated small growth in recent years, but further monitoring of these trends is required.

Figures 16 and 17, which present the numbers of unemployed persons and the unemployment rates, respectively, both broken down by geographic area, show a similar story to GVA, i.e., one of economic growth until 2007 (and a decrease in both unemployment levels and rates), but with a sharp increase in the level of unemployment in subsequent years. The figures again show differences between rural and urban areas with a much stronger reaction in the predominantly urban areas.

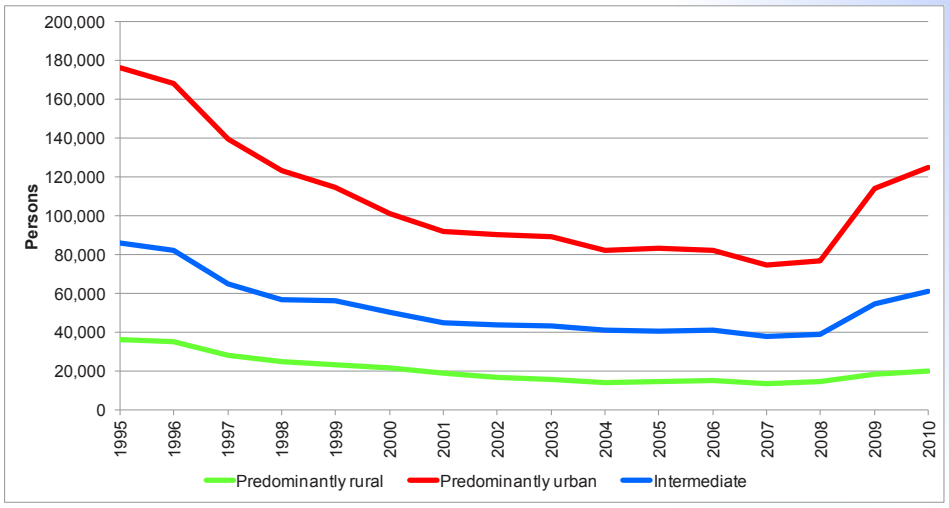
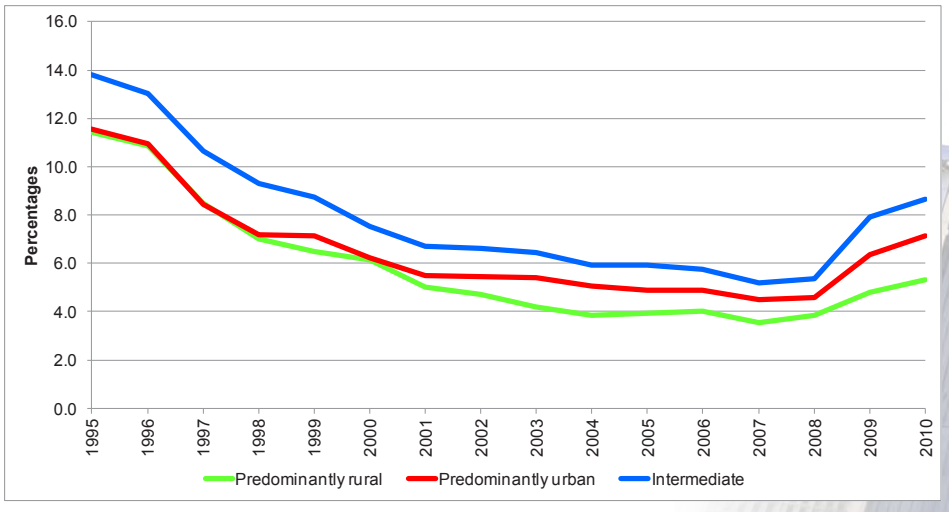


Figure 16: Unemployment by geographic area, 1995-2010

Source: Authors' elaboration based on data from the Office for National Statistics.

Note: Unemployment rate is defined as the ratio unemployment to



labour force (unemployment plus employment).

Figure 17: Unemployment rate by geographic area, 1995-2010 1/

Source: Authors' elaboration based on data from the Office for National Statistics.

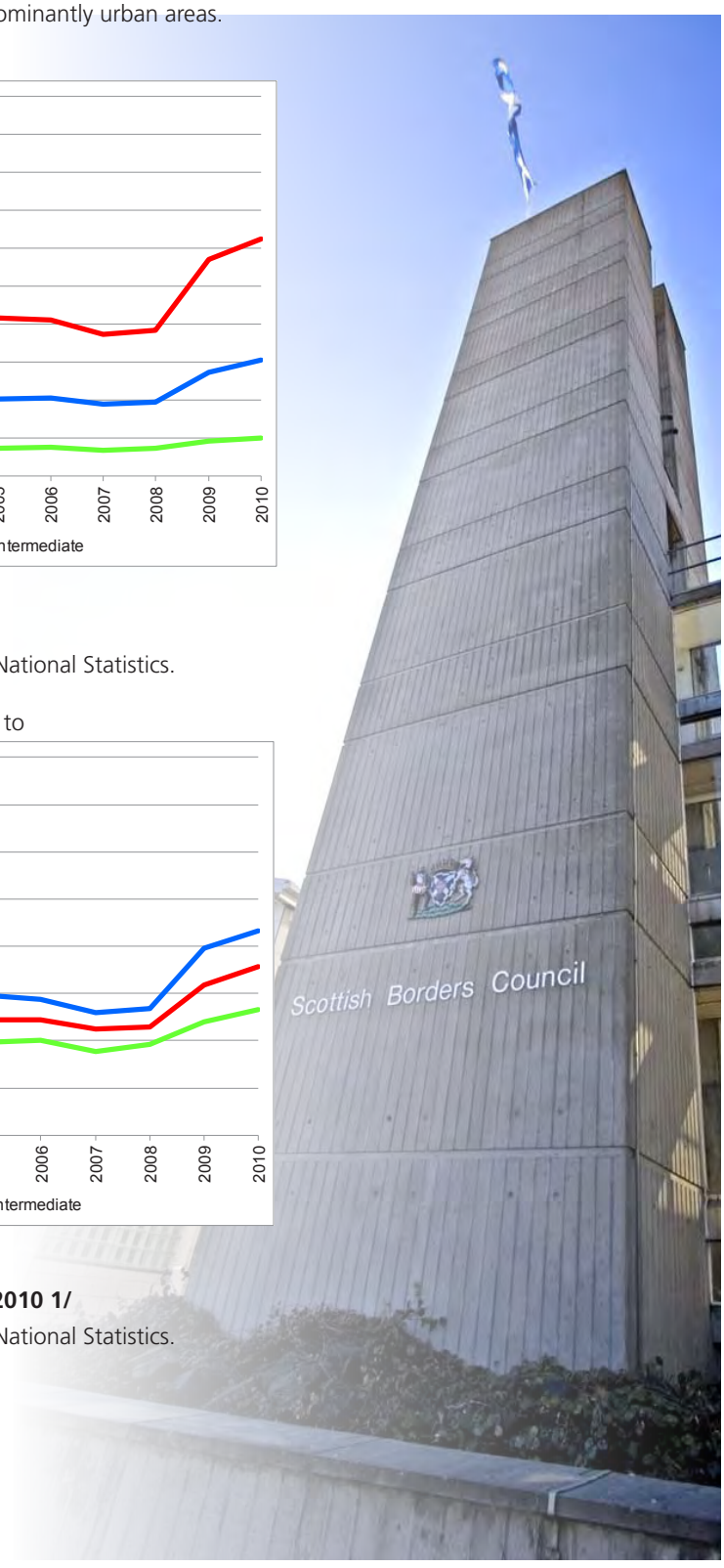


Table 4 presents the growth in unemployment levels and the change in the unemployment rate for 2007/09 and 2007/10 by the classification of predominantly urban, predominantly rural and intermediate areas. Consistent with the story told in Figures 14 and 15, the table shows that unemployment grew faster in predominantly urban areas than in the other areas.

Table 4: Change in unemployment by geographic area, 2007/09 and 2007/10 1/

	Unemployment			Unemployment rate		
	Predominantly Rural	Intermediate	Predominantly Urban	Predominantly Rural	Intermediate	Predominantly Urban
2007/2009						
Total	37.9	44.2	53.6	1.3	1.9	2.7
Annual	17.4	20.1	23.9	0.6	0.9	1.4
2007/2010						
Total	50.0	62.2	67.7	1.8	2.6	3.5
Annual	14.5	17.5	18.8	0.6	0.9	1.2

Source: Based on data from the Office of National Statistics.
1/ 'Total' means the total growth during the period either in percent changes (unemployment) or in per cent points (unemployment rate). Annual change is the average annual change during the period.

1.2.4 The relationship between growth and unemployment in Scotland[5]

The final part of our analysis considers the relationship between economic growth and unemployment observed in the figures and assesses whether there are differences between rural and urban areas. This is important as it may, for example, provide insight into whether policies to promote economic growth will have similar impacts on employment in rural and urban areas.

Similar to a range of work on the issue[6], our statistical analysis for Scotland highlights that there is a two way relationship between growth and unemployment: that is, growth affects unemployment and unemployment affects growth.

For example, our analysis of the relationship between economic growth and the unemployment rate in Scotland indicates that an increase of 1 percentage point in the unemployment rate is reflected in a decrease of 1.7 per cent in the real GVA growth. There appears to be no differences between rural and non rural areas.

However, in terms of the impact of real GVA growth on the unemployment rate, our estimation indicates a difference between predominantly rural areas and the other areas. Thus, in the long term an increase of 1 per cent in real GVA in predominantly rural areas decreases the unemployment rate by 0.33 percentage points, whilst in the other areas the decrease is 0.65 percentage points. This may have important implications for policy aimed at reducing unemployment as it suggests that growth in urban areas is likely to have more impact on employment than growth in rural areas.

1.2.5 Conclusions

This brief, high level, update of the analysis undertaken for Rural Scotland in Focus 2010, suggests that whilst Scotland's rural areas suffered a contraction in economic activity in the 2007/10 period, they were slightly more resilient than Scotland's urban areas, which suffered higher rates of decline. However, there appear to have been marked differences between rural areas, with Southern Scotland being hit harder than other rural areas. This seems to support the findings of the vulnerability work reported in Section 2 of this report, where a number of the most vulnerable towns appear to be in Southern Scotland.

Whilst there are many similarities between the rural and urban economies, the evidence suggests that urban areas seemed to grow faster in the economic boom but shrank faster in the recession. What we don't know is to what extent this is due to the nature of the recession and the economic sectors that were particularly hit.

Our statistical analysis highlights that differences in the composition of the economy of rural and urban areas leads to a stronger relationship between growth and employment in urban areas. This has implications for policies targeting growth to reduce unemployment. At one level it suggests that urban areas should be targeted, on another level it suggests that we need to understand more fully the relationship in rural areas so that growth which leads to greater rates of employment can be encouraged.

[5] This section is based on the analysis "Estimation of the relationship between economic growth and unemployment in Scotland" by Revoredo-Giha et al. (2012) and further details of the methods employed and results are available from the authors on request.
[6] For example see: Okun, A. (1962). Potential GNP: Its Measurement and Significance, American Statistical Association, Proceedings of the Business and Economics Statistics Section, pp. 98–104; Brechling, F. P. R. (1965). The Relationship Between Output and Employment in British Manufacturing Industries. The Review of Economic Studies, 32(3): 187-216; Christopoulos, D. (2004). The relationship between output and unemployment: Evidence from Greek regions. Papers in Regional Science. 83, 611–620; Lee, J. (2000). The Robustness of Okun's Law: Evidence from OECD Countries. Journal of Macroeconomics, 22(2): 331-56.

1.3 An update on Scotland's Environment

Davy McCracken

Key Points

1. Scotland is a small country with a wide range of targets for addressing climate change, water quality and biodiversity concerns.
2. The decisions taken to address these concerns have the potential to complement or conflict with each other, depending on how the decisions are reached and the actions implemented.
3. Using an ecosystem approach in the assessment of land-use options is the best way to help identify and potentially resolve such conflicts.
4. Such an integrated approach is the only way to ensure that the full range of goods and services provided by existing habitats and land-uses are properly valued and taken into account when considering the potential impacts (whether good, bad or indifferent) of any proposed change of land-use.
5. It is also the best way to ensure that the range of challenges posed by issues such as climate change, food and energy security and changing Scottish and EU policies and priorities can be addressed appropriately.
6. It is clear that this will not be easy to achieve in practice, that is why it is essential that the opportunities presented by the Land Use Strategy and associated Action Plan are not missed.

1.3.1 Introduction

The purpose of this section is to provide a brief update on any key changes in factors affecting Scotland's environment since the publication of the *2010 Rural Scotland in Focus Report*[1]. A particular focus is put on those issues which formed chapter headings in that Report (Climate Change; Water Quality; Farmland Biodiversity; Upland Biodiversity) but commentary is also provided on a number of emerging issues which are likely to have a major influence on the quality of Scotland's environment over the coming years. Space considerations mean that only a short overview is provided in this section but more detailed commentary is available in a SAC Rural Policy Centre Policy Briefing *(An overview of the environmental issues highlighted in Rural Scotland in Focus 2012[2])* published in association with this 2012 Report.

As highlighted in the 2010 Report, one major difficulty is that up until now environmental information has not always been updated annually and/or available from any one central location. The launch in November 2011 of *Scotland's Environment Web* (named SEWeb)[3] is therefore a major step forward. The aspirations for the development of this site over the coming three years should mean that it is easier in future to access key information, statistics and commentary on the state of Scotland's environment.

The first major project to be hosted on the SEweb Library is the *State of the Environment Report*[4], published by the Scottish Environment Protection Agency (SEPA). This provides a comprehensive insight into the condition of Scotland's wider environment in 2011 and how the quality of the country's land, air and water impacts on people's quality of life and lifestyle. It is therefore an excellent resource in which to find additional information and detail about many of the issues highlighted throughout this section. Unlike previous hard-copy versions, the new online State of the Environment Report will be a more interactive and live publication that will be updated regularly, and the SEWeb editorial partnership will be widened to include other key organisations working on the environment.

Scotland's environment

Life

Scotland's Environment Web – named SEWeb – aims to be the gateway to everything anyone would want to know about Scotland's environment.

This three year project, supported by funding from the European Union, aims to put Scotland at the global forefront of sharing environmental information, prioritising problems and involving citizens in assessing and improving their own environment.

Features of SEWeb will include: all information being available from the one source; direct link to individual partner agencies, making it easy to navigate through information; an Online Library containing all relevant partner organisations' reports and publications; 'Citizen Science' to allow an individual to interact with SEWeb.

Partner agencies coming together to create SEWeb include a wide range of organisations involved in environmental protection and improvement.

[1] http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/rsif/
[2] http://www.sac.ac.uk/ruralpolicycentre/publs/
[3] http://www.environment.scotland.gov.uk/default.aspx
[4] http://www.environment.scotland.gov.uk/our_environment.aspx

1.3.2 Climate Change

The Climate Change (Scotland) Act 2009 sets statutory targets for reducing greenhouse gas emissions. Overall targets are for a reduction in emissions of 80% by 2050, with an interim target of 42% by 2020 (from a 1990 baseline), with associated annual targets. The 2010 *Rural Scotland in Focus Report* highlighted that given the likely tensions between economic growth, food security and climate change policy, there was a need for a coherent and cohesive view of activity across and between sectors and a prioritisation of policy aims.

In 2011, the Scottish Government published *Low carbon Scotland: meeting the emissions reduction targets 2010-2022*[5]. This all encompassing document sets out the proposals and policies required to deliver the required emissions reductions to 2022 (although proposals need to be turned into policies, and other decisions, for example on electricity generation, may make the targets more challenging[6]). Targets for 2023-2027 were set in October 2011[7], and will continue to be set at 5-year intervals. Unless measures outlined in these documents, or measures which equally reduce emissions, are adopted, Scotland will miss its statutory targets. The independent Committee on Climate Change which advises the Scottish Government highlighted in January 2012 that although good progress has been made since 2009 to reduce emissions, in order to sustain this progress new policies will be required (e.g. to develop electric vehicle markets and associated infrastructure) and it will be essential in the agriculture and forestry sectors to further develop and implement effective programmes to encourage emission reductions among farmers and actions to protect the significant carbon stocks within Scotland's peat soils[8] [9].

At a wider UK level, The *UK Climate Change Risk Assessment*[10] (UK CCRA) was published in January 2012, the first assessment of its kind for the UK and the first in a 5 year cycle. In addition to reports on different sectors (e.g. agriculture, biodiversity and ecosystem services, forestry, water) the UK CCRA also contained a report on the risks that are of particular concern in Scotland[11]. Having better knowledge of the scale of current and future flood risk due to climate change was highlighted as being of particular concern in Scotland, in response to which SEPA have published the National Flood Risk Assessment and are developing policies and flood risk management strategies[12]. Figure 16 indicates the 243 Potentially Vulnerable Areas that have been identified. They contain within them 92% of the total number of properties at risk within Scotland. The UK CCRA also highlighted a number of gaps in the evidence and understanding needed to inform adaptation actions in Scotland, such as future changes in 'range shifts' (changes in the geographic area where a species can survive), requiring a better understanding of species distributions and interactions, habitat shifts and landscape structure.

Figure 18 Areas across Scotland that have been identified by SEPA as being potentially vulnerable to flooding[13]

1.3.3 Water Quality

The freshwater environment in Scotland is affected by a range of activities. These include forestry, agriculture, recreation, water abstraction for industrial and domestic use, the building of developments such as roads, engineering works, impounding of water in reservoirs and pollution from chemicals and sewage. The key piece of freshwater environment legislation is the EU Water Framework Directive. The 2010 *Rural Scotland in Focus Report* highlighted that further improvements to water quality will therefore depend largely on the successful management of diffuse pollution from large areas of rural and urban land and this is reflected in the actions highlighted in the River Basin Management Planning process[14] [15].

A Diffuse Pollution Management Advisory Group (DPMAG) was established in 2010 to develop and implement a detailed plan for using a range of legislative, economic and educational mechanisms to address diffuse pollution issues in Scotland. The principal measures employed by the DPMAG and its partners to improve the water quality of surface waters and groundwater affected by diffuse pollution from agricultural sources is based on a two tier strategy comprising[16]:

- a national campaign to prevent water bodies from deterioration in status and make improvement where they are not far from a status boundary
- a targeted approach in catchments where the extent of diffuse pollution problem on the water environment requires a more focused approach.

[5] http://www.scotland.gov.uk/Publications/2010/12/23134226/0
[6] Cook, C., Owen, N. & Reid A. 2011. SPICe Briefing 11/41: Environment. Scottish Parliament Information Centre, Edinburgh http://scottish.parliament.uk/parliamentarybusiness/29439.aspx
[7] http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action/climatechangeact/order2011
[8] http://www.theccc.org.uk/news/press-releases/1146-good-progress-made-in-scotland-to-reduce-emissions-31-january-2012
[9] http://downloads.theccc.org.uk.s3.amazonaws.com/1552_CCC_Scotland%20report.pdf
[10] http://www.defra.gov.uk/environment/climate/government/risk-assessment/
[11] http://randd.defra.gov.uk/Document.aspx?Document=CCRAforScotland.pdf
[12] http://www.sepa.org.uk/flooding/flood_risk_management/national_flood_risk_assessment.aspx
[13] http://www.sepa.org.uk/flooding/flood_risk_management/national_flood_risk_assessment.aspx
[14] http://www.sepa.org.uk/water/river_basin_planning.aspx
[15] http://www.sepa.org.uk/water/river_basin_planning.aspx
[16] http://www.sepa.org.uk/water/river_basin_planning/diffuse_pollution_mag.aspx

Figure 19 shows river catchments which have been identified as "priority" catchments because diffuse pollution from agriculture is a major issue in those catchments and the scale of pollution reduction needed will require planned and targeted actions to be identified in discussion with the farmers concerned. Fourteen priority catchments, containing some of Scotland's most important waters (for conservation, drinking water, bathing and fishing), have been selected using a risk based approach for action in the first basin planning cycle[17]. Work also includes the mitigation of other water environment impacts, such as morphological change, abstractions, flooding and alien species, where these are also causing waterbody downgrades.

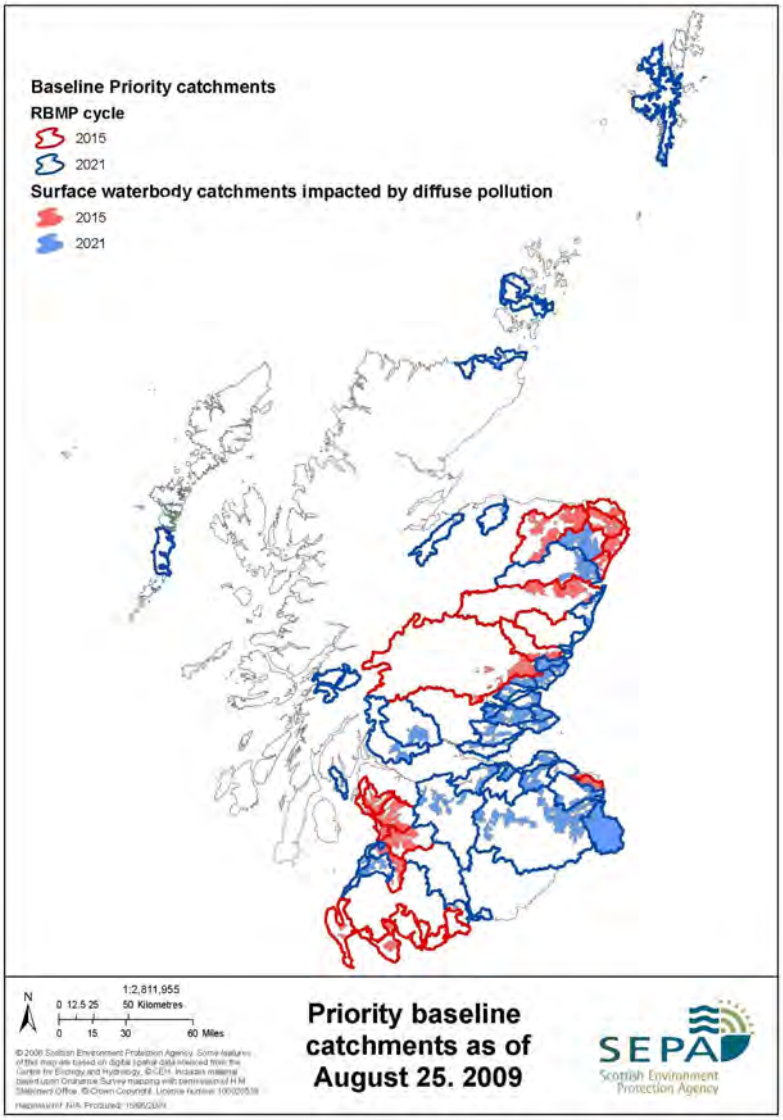


Figure 19 Diffuse pollution priority catchments in Scotland 2009-2015 and proposed priority catchments for the period 2015-2027 [18]

Instances of good practice and breaches of diffuse pollution legislation occurring along the watercourses in each of these priority catchments have been assessed by detailed surveys on the ground since 2010. Although the extent of each varies between catchments, the main diffuse pollution issues found across these catchments to-date relate to livestock poaching or erosion within five metres of a river or burn, land being cultivated within two metres of a river or burn and/or pesticide or fertiliser application and storage. These catchment walks by SEPA are being followed up by a series of one-to-one visits with individual landowners to discuss the issues relating to diffuse pollution. Examples of good practice (such as fencing and the establishment of buffer strips and alternative water supplies for livestock) have also been noted on the catchment walks, but the fact that on average one breach has been recorded for every kilometre of watercourse walked highlights the scale of the problem to be addressed[19].

1.3.4 Farmland and Upland Biodiversity

The 2010 *Rural Scotland in Focus Report* highlighted that although a focus on designated sites and targeted actions for particular species had improved the condition of many habitats within designated areas, landscape simplification had resulted in a continuing decline in the quality of much of Scotland's wider countryside, with resulting adverse impacts on habitats and species associated with lowland Scottish farming. Climate change and changing land management were also putting pressure on upland biodiversity.

A comprehensive report by Scottish Natural Heritage[20] published at the end of December 2010 highlighted that although good progress had been made with some elements of biodiversity, Scotland, like all other European Union countries, had failed to meet the target of halting biodiversity loss by 2010. The European Union has subsequently revised its target to *Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss*[21]. The Scottish Government is therefore currently revising its Scottish Biodiversity Strategy[22] to make sure it can meet the new challenges and targets associated with the targets for 2020 set out in both the EU Biodiversity Strategy and the Convention on Biological Diversity's 'Aichi' targets[23].

In 2011, Scotland became the first country in the United Kingdom to assess the extent and broad distribution of High Nature Value (HNV) farming and forestry systems, a requirement set by the European Commission for all EU Member States in the implementation of their Rural Development Programmes[24]. In 2009, 2,284,000 ha (equivalent to 40%) of Scotland's Utilised Agricultural Area (UAA) was estimated to be under HNV farming systems, while in 2010 529,000 ha (equivalent to 41%) of the woodland area of Scotland was under HNV forestry systems. Figure 20 shows the broad distribution of HNV farming systems across Scotland. It was also estimated that 44% of Scotland's UAA was under High Nature Value farming systems in 2007 and 43% in 2008. The decline between 2007 and 2009 is likely to be associated with the retreat of farming from Scotland's hills which has been highlighted in previous SAC[25 26] and Scottish Natural Heritage[27] reports. Scotland's HNV farming systems are largely associated with livestock grazing systems in the uplands and

[17] http://www.sepa.org.uk/water/river_basin_planning/dp_priority_catchments.aspx
[18] Taken from the Rural Diffuse Pollution Plan for Scotland http://www.sepa.org.uk/water/river_basin_planning/diffuse_pollution_mag.aspx
[19] http://www.sepa.org.uk/water/river_basin_planning/dp_priority_catchments.aspx
[20] http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1803
[21] http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_ACT_part1_v7%5B1%5D.pdf
[22] http://www.scotland.gov.uk/Topics/Environment/Wildlife-Habitats/16118/BiodiversityStrategy
[23] http://www.cbd.int/sp/targets/
[24] http://www.scotland.gov.uk/Publications/2011/08/10135254/0
[25] http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/retreatfromthehills/
[26] http://www.sac.ac.uk/ruralpolicycentre/publs/supporttoagriculture/responsefromthehills/
[27] http://www.snh.org.uk/pdfs/publications/commissioned_reports/454.pdf

islands and there is concern that the declines in extent of HNV farming systems are having an adverse impact on biodiversity. There is therefore an urgent need to consider not only what types of HNV farming-specific support mechanisms are required in Scotland but also what policy framework will ensure that such support can be developed and implemented effectively. These needs are made all the more important given the additional changes to CAP support mechanisms scheduled to come into place post-2013[28].

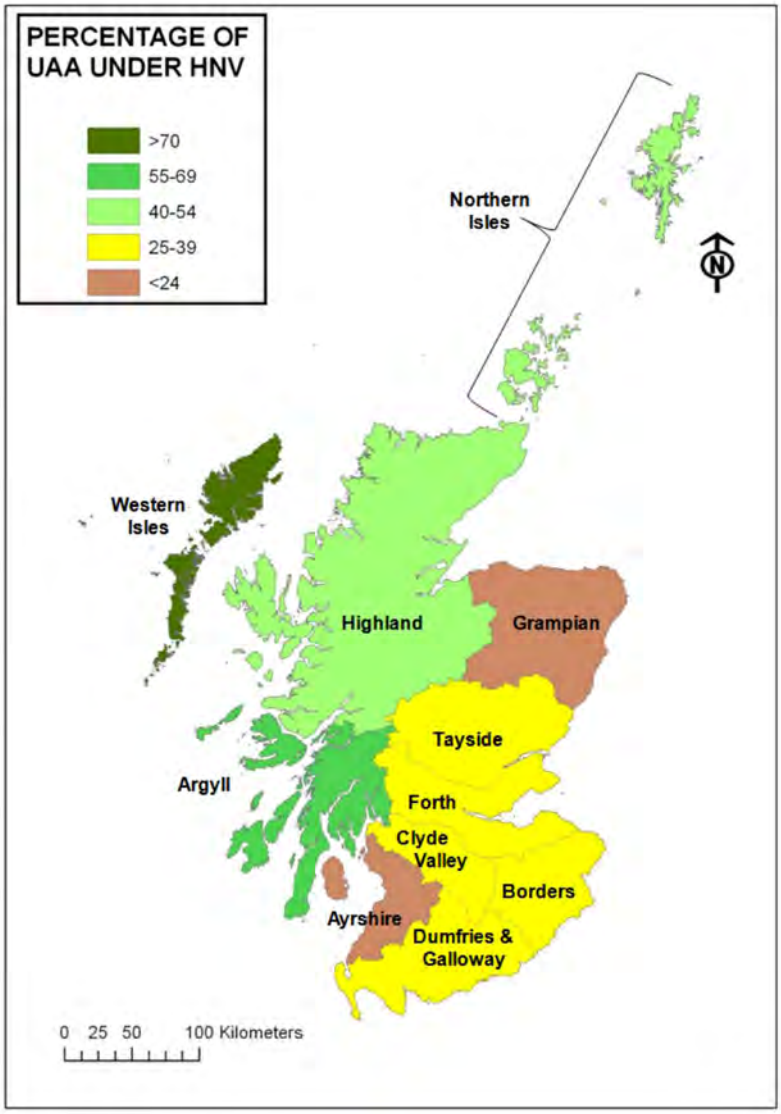


Figure 20 Percentage of the Utilised Agricultural Area (UAA) estimated to be under High Nature Value farming systems in 2009 within each Regional Proposal Assessment Committee (RPAC) in Scotland.

Landscape simplification is the key driver of farmland biodiversity declines but it is clear that this cannot be addressed effectively at the scale required solely by using agri-environment schemes within the Scottish Rural Development Programme (SRDP)[29]. The current proposals to 'green' Common Agricultural Policy (CAP) support are therefore welcome. Indeed the basic principles behind some of the greening proposals (e.g. encouraging greater crop diversification, maintaining 7% ecological priority areas, extending cross-compliance to include protection for watercourses) are elements that SAC and partners have been highlighting since 2007 as having potential wider European biodiversity benefits[30]. However, although it is proposed that 30% of the direct payment budget will have to be spent on greening measures, whether real environmental benefits do arise will depend on how these are implemented in practice.

The greening proposals, if implemented appropriately, have the potential to increase the general biodiversity value of the more intensified farmland and thereby increase the probability of more targeted agri-environment actions achieving their biodiversity goals. However, as a recent European Court of Auditors special report on agri-environment schemes[31] has highlighted, in many cases across Europe: agri-environment schemes are not designed and monitored so as to deliver tangible environmental benefits; many objectives are too vague to be useful for assessing the extent to which they have been achieved; in a number of cases, agri-environment payments were not clearly justified by the environmental pressures identified in the associated rural development payments. Hence the greening measures will only have a real benefit if they are accompanied by better designed, targeted, implemented and monitored agri-environment schemes. It is therefore essential that not only the logistics of implementation but also the biodiversity benefits to be gained are given due consideration in the design of Scotland's post-2013 Rural Development Programme.

1.3.5 Future Challenges

Scotland's first Land Use Strategy[32] was published in March 2011 and was developed as a key commitment of the Climate Change (Scotland) Act 2009. The Strategy rests on the three pillars of sustainability: Economy – to help land managers increase and sustain returns; Environment – to assist the natural environment to thrive and adapt; Communities – to promote understanding of the land and its benefits. The Strategy also sets out ten principles[33] for sustainable land use to guide public sector policy and decision making. In December 2011 an Action Plan outlining how the 13 Proposals stated in the Strategy will be taken forward was published[34]. The Action Plan brings together an integrated set of commitments from across Government policy, all of which contribute to the Government's long term policy agenda on land use, and brings together for the first time all the Scottish Government's land use related commitments under a single unifying framework. The Action Plan puts particular emphasis on the need to implement the ecosystem approach to all land use planning decisions made by Government and public bodies.

It is, however, essential that all sectors of government quickly gain acceptance of the ecosystem approach and understand and appreciate not only what it is and why it is relevant but also how best to implement it in decision-making processes and with regard to action and management the ground. The coming months and years will see decisions having to be taken on a range of issues with the potential to have long-lasting positive or negative impacts on Scotland's environment, depending on how they are implemented. The actions being taken at a catchment level to mitigate diffuse pollution, the need to support the large proportion of Scotland's agricultural

[28] http://www.sac.ac.uk/ruralpolicycentre/publs/supporttoagriculture/hnvfarmingsystemsscotland/
[29] http://www.sac.ac.uk/ruralpolicycentre/publs/changinenvironment/farmlandbiodiversity/
[30] http://www.sac.ac.uk/ruralpolicycentre/publs/changinenvironment/farmlandbiodiversity/
[31] http://eca.europa.eu/portal/pls/portal/docs/1/8760788.PDF
[32] http://www.scotland.gov.uk/Topics/Environment/Countryside/Landusestrategy
[33] http://www.scotland.gov.uk/Publications/2011/03/17091927/2
[34] http://www.scotland.gov.uk/Publications/2011/12/19161736/0

and forestry area under High Nature Value systems and the importance of ensuring that real environmental and biodiversity benefits are achieved by the reform of the CAP have already been highlighted.

The desire, and indeed essential need, for Scotland to become a low carbon society will also mean decisions having to be taken about a wide range of sectors. For example, the Scottish Government has set out ambitious targets to expand woodland cover to 25% of Scotland's land area by 2050[35], is committed to meeting at least 30% of all energy demand (for heating, transport and electricity) through renewable energy sources by 2020, and have put in place a number of policies and programmes to help reduce greenhouse gas emissions from rural land uses (for more details see section 6). It is also increasingly recognised that there is a need for sustainable soil management: Scotland's soils are an important carbon store (the amount of carbon stored in Scottish soils is estimated to be equivalent to around 180 years worth of Scotland's current greenhouse gas emissions) and over half of this carbon is stored in peat soils (which are also important as they support habitats of global importance)[36] [37].

The decisions and actions implemented to address any one of these concerns have the potential to complement or conflict with decisions and actions taken to address each or all of the other concerns. Using an ecosystem approach in the assessment of land-use options is the best way to help identify and potentially resolve conflicts. Such an integrated approach is the only way to ensure that the full range of goods and services provided by existing habitats and land-uses are properly valued and taken into account when considering the potential impacts (whether good, bad or indifferent) of any proposed change of land-use. It is also the best way to ensure that the range of challenges posed by issues such as climate change, food and energy security and changing Scottish and EU policies and priorities can be addressed appropriately. It is clear that this will not be easy to achieve in practice, that is why it is essential that the opportunities presented by the Land Use Strategy and associated Action Plan are not missed.

[35] http://www.forestry.gov.uk/woodlandexpansion
[36] http://www.environment.scotland.gov.uk/our_environment/land/soils.aspx
[37] http://www.sepa.org.uk/land/idoc.ashx?docid=f200543f-cb74-426f-bbf8-6e72f8fc0555&version=-1

2. Towns and rural Scotland: vibrant or vulnerable?

Jane Atterton

Key points

1. Scotland's towns are diverse in terms of their size and the functions they perform. The Scottish Government classifies small towns as having a population of 3,000-10,000. However, towns that are both smaller and larger than this classification also perform important service centre functions for local and rural hinterland populations.
2. Scotland's small towns (as formally classified by the Scottish Government) are experiencing some out-migration of working age people in the 16-24, 35-44 and 45-64 age groups. In general they have more diverse economic bases than rural areas, with more substantial retail, accommodation and food service, and professional activities sectors reflecting their service centre functions. At the same time, some towns are heavily dependent on one sector or employer, such as tourism or the public sector.
3. A Vulnerability Index reveals that, in general, Scotland's remote small towns and other urban areas (with a population of 10,000 to 125,000) are more vulnerable than its rural areas. In general, accessible rural areas are the least vulnerable according to the Index. The Index also suggests that a cluster of vulnerable places exists in the south, and particularly the south west, of Scotland.
4. There is a need to monitor the challenges and opportunities that are facing Scotland's towns as a result of a number of ongoing processes, including continuing economic uncertainty, population ageing and migration patterns, changing housing demands, moves to a low carbon economy and public sector funding and job cuts.
5. Developing a socio-economic typology of Scotland's towns would be useful as a means of exploring the impacts of these processes on places with similar characteristics over time, and of devising appropriate policy and funding responses.

2.1 Introduction

The Scottish Government refers to towns as 'the hearts of their local communities' and acknowledges their contribution to the national economy, in support of its overall purpose of increasing sustainable economic growth[1].

To a greater or lesser extent, Scotland's towns provide a variety of functions for their local population and often for the population of a surrounding rural hinterland. These functions can include the provision of public, private and voluntary sector services, employment and leisure activities, and a centre for civic activity. This service centre function is particularly important in remote areas, where the distance to travel to the nearest large urban centre may be considerable.

Towns are diverse in terms of their size, location, functions, and the extent to which both town and hinterland residents depend on them[2]. Some towns are located close to large urban centres, and therefore dominated by high levels of commuting and tend to have relatively young, diverse and economically active populations. Others are dependent on declining primary and secondary activities, such as fishing or manufacturing. Other towns are important tourism or retirement centres. Continuing demographic ageing may mean more towns take on such a retirement location function in future. Many towns also have a strong dependence on public sector employment - a dependence which could pose challenges as public sector budget pressures continue - while others continue to act as important centres for a changing agricultural industry.

[1] See: http://www.scotland.gov.uk/Topics/Built-Environment/regeneration/town-centres for more information.
[2] See Scottish Small Towns Task Group (2006) Scottish Small Towns Report. Available online at: http://www.scotland.gov.uk/Topics/Built-Environment/regeneration/pir/learningnetworks/towncentres/research

Current social and economic processes and shifts are bringing new opportunities and challenges for Scotland's towns. It is therefore timely to explore the extent to which towns can be said to be vibrant or vulnerable, and what this means for their local and hinterland populations. What is the future for these towns as the population of rural areas ages, as public sector budget cuts bite, as people become more mobile, better connected and are encouraged to move to a low carbon economy, and as the community and voluntary sector is encouraged to take on greater ownership and management of local assets?

Drawing on existing evidence and analysis, combined with new work on the vulnerability of towns across Scotland, this section explores the current and future role that towns of different sizes play in Scotland's rural and regional development. When this section refers to 'small towns' it is referring to those places which are formally classified as such by the Scottish Government. When the terms 'town' or 'settlement' are used, the section is referring more broadly to places which may be smaller or larger than those identified through the formal classification. The classification is explained in the next section.

2.2 Defining Scotland's towns

Understandings of what constitutes a town vary amongst policy-makers, researchers and those living and working in rural Scotland. For example, the Scottish Parliament Inquiry into accessible rural areas in 2005[3] identified 262 Scottish small towns with a population of between 2,000 and 20,000. The Inquiry noted the importance of these towns, which together were home to approximately one third of the Scottish population. In contrast, referring specifically to town centres, Scottish Planning Policy issued by the Scottish Executive in 2006 provided a broad definition: '*city, town and district centres, irrespective of size, that provide a diverse and sustainable mix of activities and land uses which create an identity that signals their function and wider role.*'[4]

In 2005, work undertaken for the Scottish Executive[5] concluded that 14% of the population lived in Scotland's small towns, considerably lower than the proportion identified in the 2005 Parliamentary Inquiry. The Scottish Executive study used the Urban Rural Classification which distinguishes between settlements on the basis of their population size: large urban areas (settlements of over 125,000 people), other urban areas (settlements of between 10,000 and 125,000 people), small towns (with between 3,000 and 10,000 population) and rural areas (with less than 3,000 population). Small towns and rural areas are defined as being accessible or remote (or very remote in the eight-fold classification) on the basis of their drive times to settlements of 10,000 people or more.

The classification is useful in distinguishing between, and analysing the characteristics of, settlements of different sizes. However, two important limitations can be noted. Firstly, as with any such classifications, cut-off points are somewhat arbitrary. For example, what is the difference between a settlement with 9,999 people (defined as a small town) and one with 10,001 people (defined as an other urban area)? More broadly, there are settlements both smaller and larger than the 3,000-10,000 population threshold which perform important service centre functions. As the Scottish Small Towns Task Force noted in 2006: "*what is important is the role and potential of small towns rather than adherence to strict and inflexible population criteria. There are many settlements which function as small towns with either populations above 20,000 or below 2,000*"[6].

Secondly, the classification defines those areas within a 30 minute drive time of a place of 10,000 or more population as accessible. Thus, areas that are within 30 minutes drive time of centres with, say 7,000 or 8,000 people, are not considered to be accessible, even though these centres are likely to act as important service centres for a surrounding rural hinterland population. This is likely to be particularly the case in remote rural Scotland. For example, Thurso and Ullapool both perform critical employment and service centre functions for their surrounding rural hinterlands, particularly given the distance to the nearest urban areas of Inverness. However, as both places have less than 10,000 population, these local level travel patterns will not be taken into account in the classification. The classification may therefore not fully represent the travel patterns of those living in remote Scotland.

2.3 Policy and funding support for Scotland's towns

The Scottish Government's Scottish Planning Policy[7], issued in 2010, affirms the position of towns (without defining their size) as a key element of the economic and social fabric of Scotland, acting as centres of employment and services for local communities and a focus for civic activity. The Planning Policy notes that town centres should be the focus for a mix of uses including retail, leisure, entertainment, recreation, cultural and community facilities, as well as homes and businesses. Retail and leisure uses are fundamental to the concentration of other activities located in town centres and the Policy notes that planning authorities should support a diverse range of community and commercial activities. The usefulness of town health checks and strategies, supported by regular monitoring of a range of indicators relating to the role and performance of the town, is emphasised.

The Scottish Government's recent rural strategies have made only limited mention of the important role played by towns (again not defined precisely). 'Rural Scotland Better Still Naturally'[8] (2007) discussed the importance of urban-rural links and recognised the role of cities and towns in providing 'hubs for social, business and service activity' with small towns offering a 'potential role in supporting rural development'. More recently, the 2010 'Speak up for Rural Scotland' Consultation document[9] made limited mention of the role of towns in rural Scotland, other than acknowledging the importance of villages and towns 'having space for affordable housing'

[3] For more information see: http://archive.scottish.parliament.uk/business/committees/environment/reports-05/rar05-12-vol01.htm.
[4] Scottish Executive Development Department (2006) Scottish Planning Policy SPP8 Town Centres and Retailing. Available at: http://www.scotland.gov.uk/Resource/Doc/137867/0034251.pdf.
[5] SAC, The Arkleton Institute for Rural Development Research and the University of Gloucestershire (2005) *Economic Linkages Between Small Towns and Surrounding Rural Areas in Scotland.* Available at: http://www.scotland.gov.uk/Publications/2005/03/20911/55398.
[6] See Scottish Small Towns Task Group (2006) Scottish Small Towns Report. Available online at: http://www.scotland.gov.uk/Topics/Built-Environment/regeneration/pir/learningnetworks/towncentres/research.
[7] The Scottish Government (2010) *Scottish Planning Policy.* Available at: http://www.scotland.gov.uk/Publications/2010/02/03132605/0.
[8] Scottish Executive (2007) *Rural Scotland: Better Still, Naturally*. Available at: http://www.scotland.gov.uk/Publications/2007/03/27152428/0.
[9] The Scottish Government (2010) *Speak up for Rural Scotland.* Available at: http://www.scotland.gov.uk/Publications/2010/07/22091602/0.

(Step Change 20) and the need to make 'our small towns and villages even better places to stay' (Step Change 23). The Scottish Government's response to the Consultation, 'Our Rural Future'[10], makes no mention of the role of towns. In the 'Rural agenda' section of the SNP's 2011 Manifesto, Cabinet Secretary for Rural Affairs and the Environment Richard Lochhead MSP, sets out the importance of encouraging 'strong and growing rural towns and villages'[11], but again no further detail is provided on the role of small towns, or their particular needs and opportunities.

Support is provided to Scotland's towns, however, through the Government's regeneration activities, including the 'Achieving a Sustainable Future: Regeneration Strategy', launched in December 2011[12]. This Strategy sets out the overall aims of the Scottish Government in terms of regeneration, which are to respond to the challenges of the most disadvantaged communities and ensure that all places are sustainable. Prior to this, the Town Centre Regeneration Fund (TCRF) provided £60 million worth of capital investment to Scotland's town centres and local high streets between April 2009 and March 2010. The Fund was available to all areas that were recognised in local authority development plans as performing the function of a town centre, and was designed to support community and business leaders to regenerate and grow town centres in challenging economic times, in order to meet the needs of local communities and businesses. Recent evaluation work on the TCRF[13] has suggested that the Fund performed a 'pivotal' role in some cases where projects would not have gone ahead or would have progressed more slowly without TCRF funding. The SNP's 2011 Manifesto made a commitment to bring together various funding schemes to create a simpler, more accessible TCRF to improve the built environment. The Manifesto also included a new commitment to invest in Scotland's town centres, including through urban business centres, wireless technology zones and the creation of town centre business hubs, funded through the £50 million JESSICA fund[14].

The Town Centres and Local High Streets Learning Network is a cross-Government initiative developed by the Scottish Centre for Regeneration, which supports people and organisations to improve Scottish town centres and high streets, by providing practical help to organisations and individuals involved in decision-making and providing front-line services[15]. Finally, the Scottish Government provides funding for designated Business Improvement Districts and for the Small Business Bonus Scheme[16], both of which provide support to businesses located on town centre high streets (and elsewhere). There are also several examples of individual towns developing their own 'bottom-up' initiatives based around a niche role, such as Wigtown Book Town and the Craft Town Scotland Initiative in West Kilbride (on which more detail is provided below).

Some Scottish Government policy and funding support is therefore available to Scotland's towns but this is very much focused on the regeneration of town centres and their businesses. Limited attention is given within rural policy to the role of towns in the wider rural economy and to the nature and extent of inter-relationships between towns and their rural hinterlands. This is recognised by the Scottish Small Towns Group, for example, which has argued that "*Policy recognition for this 'middle ground' between the remote/sparsely populated rural agenda and that of the urban/city/metro region has been insufficiently developed to date. Small towns have failed to register as a national political priority*"[17]. It is therefore important that we improve understanding of these places and their inter-relationships with both rural and urban areas, especially given the potential impact of a number of current processes, including moves towards a low carbon economy[18], the ageing of the rural population, improvements in communications infrastructure and the Scottish Government's current commitment to introduce a Cities Strategy[19].

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[10] The Scottish Government (2011) Our Rural Future: *The Scottish Government's response to the Speak up for Rural Scotland Consultation*. Available at: http://www.scotland.gov.uk/Publications/2011/03/08135330/4.

[11] SNP (2011) *Manifesto 2011*. Available at: http://manifesto.votesnp.com/.

[12] Scottish Government (2011) *Achieving a Sustainable Future: Regeneration Strategy*. Available at: http://www.scotland.gov.uk/Publications/2011/12/09110320/0.

[13] Douglas Wheeler Associates Ltd with Slims Consulting, Ryden and Avril Blarney and Associates (2011) *Town Centre Regeneration: How Does it Work and What can be Achieved?*, Social Research Findings No. 66/2011. Available at: http://www.scotland.gov.uk/Publications/2011/09/21082703/0.

[14] SNP (2011) *Manifesto 2011*. Available at: http://manifesto.votesnp.com/

[15] For more information see: http://www.scotland.gov.uk/Topics/Built-Environment/regeneration/pir/learningnetworks/towncentres.

[16] For more information, see: http://www.scotland.gov.uk/Topics/Built-Environment/regeneration/town-centres/sbs.

[17] Lindley, I. (2009) *Scotland's small towns...still breathing... but for how long?* (March).
See: http://www.scotlandstowns.org/index.php?option=com_content&view=article&id=239:small-towns-group-stg&catid=63:partners-main&Itemid=109

[18] The Scottish Government (2010) *A Low Carbon Economic Strategy for Scotland*. Available at: http://www.scotland.gov.uk/Publications/2010/11/15085756/0

[19] The Government Economic Strategy (Scottish Government 2011) includes a commitment to 'introducing a Cities Strategy to support cities and their regions maximise their potential as engines of growth in the Scottish economy'.

West Kilbride: Craft Town Scotland

Maggie Broadley, Director, Craft Town Scotland

In its heyday, West Kilbride was a thriving coastal community with a boast that its residents could be catered for from the cradle to the grave within the town's main street. By 1996, 21 out of the town's 40 retail properties were boarded up, vandalism was increasing and much of the main street was drab and depressing.

Formed in 1998, West Kilbride Community Initiative Limited (WKCIL) is a Company Limited by Guarantee and a registered Scottish charity. It is managed by a volunteer board of Directors from the local community, and has one full time employee responsible for strategic development, operational management and fund raising. WKCIL's main focus of attention is to assist in the regeneration of the town centre, and its work is guided by four clear aims:

- Cultural development
- Community development
- Economic development
- Enhancement of the built environment.

The first two studios were purchased and refurbished by the Moffat Charitable Trust in 2001, with WKCIL paying a peppercorn rent and sub-letting the studios to craft workers at advantageous rates. WKCIL now operates eight craft studios, a community gift shop and a craft exhibition gallery. In April 2007, an independent study was undertaken to evaluate the economic impact assessment of Craft Town Scotland and the extent to which it had contributed to the West Kilbride Town Centre. Amongst a number of positive impacts and outcomes found by the study, the gross impact of the Initiative, in terms of new annual sales arising in West Kilbride, lies within the range of £557,000 - £763,000 per annum with 18 of the 21 shop units vacant in 1996 now under lease to a range of craft operators and new businesses.

In 2000, WKCIL purchased the old Barony Church and it spent almost six years planning and developing the building as a dedicated Craft Exhibition and Activities Centre, both as a focal point for Craft Town Scotland and as a regional focus for craft and design. Since October 2009, a total of £1.7 million has been raised from a variety of sources for both the capital and revenue costs of developing and operating the Barony Centre and a part-time Business Manager has been appointed recently to assist with operational management. The work of the Craft Town Scotland organisation in delivering nationally recognised, unique and innovative solutions to community regeneration, has been recognised recently through a number of national and regional awards. For more information, see www.crafttownscotland.org.

2.4 The key characteristics of Scotland's small towns

This section discusses some key characteristics of Scotland's small towns, as defined by the Scottish Government Urban Rural Classification. It starts by reviewing recent research studies on the characteristics of Scotland's towns, before then drawing on selected data to highlight some particular characteristics in terms of household income levels, migration patterns and the local business population.

At the outset, it is important to note the diversity of Scotland's towns, in terms of their economic, social and cultural characteristics. Some towns are agricultural market towns with surrounding rural areas traditionally centred on the agricultural industry (such as Turriff). Others are coastal towns and ports with historic linkages to fishing (such as Wick). Some towns are heavily dependent on public sector employment (such as Campbeltown and Kirkwall), and are likely to be particularly vulnerable to current pressures on public sector budgets and jobs. Some have a strong manufacturing base, which in many cases has been in decline in recent years (such as in Hawick), creating economic and social challenges. Other towns perform strong service centre roles, servicing an ageing population or a significant tourist market (such as Kirriemuir and Crieff).

Towns in more accessible locations may face pressures from the influx of wealthy in-migrants. Many may commute out to the proximate urban centre for employment and spend only limited proportions of their income and time in the local town centre. This leaves these towns at risk of becoming dormitory settlements and having to balance competing pressures to connect their local economy to that centre, while also protecting it from 'encroachment'. Much of the evidence to the 2005 Scottish Parliament Inquiry on accessible rural areas focused on the importance of small towns developing a more specialised role, perhaps through generating clusters of local businesses targeting 'niche markets' or providing a distinctive retail function centred around local food production or crafts (as in the case of West Kilbride)[20]. In this way, towns can pro-actively shape their future based on their own assets without having to rely on 'spill-over' from nearby urban centres[21].

In 2005, a study completed for the Scottish Executive[22] explored the economic linkages between small towns and surrounding rural areas and their degree of integration. The study was commissioned in the context of small towns increasingly being perceived as a

[20] For more information on the changing role of market towns, see: Powe, N. et al. (2007) *Market towns: role, challenges and prospects*, Routledge: London and New York.

[21] The 2008 Scottish Enterprise report on 'non-city places' highlighted the 'pervasive influence on expanding city economies' but also noted the potential for these places to take pro-active actions to facilitate positive economic and social change locally. Scottish Enterprise (2008) *Understanding the role of places in city regions and rural Scotland*, Scottish Enterprise (April). Available at: http://www.scottish-enterprise.com/~/media/SE/Resources/Documents/STUV/Understanding-the-role-of-places.ashx

[22] SAC, The Arkleton Institute for Rural Development Research and the University of Gloucestershire (2005) *Economic Linkages Between Small Towns and Surrounding Rural Areas in Scotland*. Available at: http://www.scotland.gov.uk/Publications/2005/03/20911/55398.

possible focus for initiatives that sought to maintain or enhance the rural economy. Using four case study towns (Buckie, Campbeltown, Selkirk and Kelso), the study found that linkages (and dependencies) work in both directions between towns and their rural hinterlands and include movements of people to access employment, education, healthcare and shopping facilities[23]. The ability of a small town to generate economic growth in surrounding rural areas depends on the nature and strength of the linkages between actors in the town, including businesses and households, and the surrounding rural hinterland, and vice versa. The study highlighted a number of policy implications, including the potential for small towns to act as foci for stimulating growth in rural areas. It also pointed to the need for an appropriate spatial distribution of investment when planning for sustainable growth in rural areas, arguing that growth in the towns is a prerequisite for sustainable surrounding rural areas[24, 25]. One of the authors of the 2005 report, Dr Paul Courtney, gives his views on the future for small towns below.

In Focus: Small towns: Fit for the 21st Century?

Dr Paul Courtney, Reader in Rural Economy and Society, Countryside and Community Research Institute (CCRI), University of Gloucestershire

Never before has the need to understand the function of small towns been so pressing. The 2005 report on small towns and economic linkages revealed the potential benefits for both towns and rural hinterlands of making strategic planning decisions based on Keynesian principles of growth, although the nature and extent of town-hinterland spillovers was variable across sectors and geographies. Since that report was completed the global financial crisis has left its mark on all corners of our economy and society. And for small towns the situation has become not only more complex, but also more urgent. Three things stand out.

First, as the age of austerity puts further pressure on public services and with it the prospects for the regeneration of small towns, it places an increasing burden on the community and voluntary sector in these societies; not least in the delivery of services and support to the most vulnerable. The existing commitment to localism in our small towns needs to be better recognised and supported. But perhaps more pressingly, there is also a need to better understand the social impacts of civic society, not only in small towns but also in their surrounding locales where its contribution is often hidden. In addition to 'economic' multipliers, we now need their 'social' and 'service' equivalents (these issues are discussed in more detail in Section 4 of this report).

Second, as evidenced by the information on vulnerability presented later in this section, the relative fortunes of remote towns compared to their accessible counterparts needs to be addressed urgently. Small towns provide a wealth of opportunities for those in footloose industries able to capitalise on the opportunities of virtual global networks for the delivery of services and information. And central to securing a sustainable future in the 21st Century economy is entrepreneurship and innovation. Greater priority should be placed on creating a fertile environment for the growth of modern day businesses in our more remote communities.

Finally, it is no secret that policy makers have found the effective categorisation of small towns to be an enduring problem. And with this has come a difficulty in prioritising them for development and regeneration. Simultaneously addressing the challenge of harnessing localism and fostering entrepreneurship requires a more nuanced approach to revealing the success factors associated with small towns and the web of contexts and relationships that shape their future. And in this regard, a debate around whether current small town definitions are fit for today's harsh socio-economic, and political, realities would be favourable.

Having briefly reviewed some of the recent research on the characteristics and roles of towns, the remainder of this part of the section presents selected data to highlight some of the key features of Scotland's small towns using the Scottish Government's Urban Rural Classification. Focusing first on income levels, the data presented in Table 1 suggests that small towns tend to have higher proportions of households in the three lower income bands than rural areas, but lower proportions than in urban areas (for the lowest two income groups, although not for the middle band). Towns and rural areas have higher proportions of households in the highest two income bands than urban areas. However, here the difference is more marked between accessible and remote areas, with accessible towns and accessible rural areas having higher proportions of households in the highest income bands than remote towns and remote rural areas. This is likely to reflect the presence of high earning commuter households in accessible areas.

[23] Seen also: Scottish Enterprise (2008) *Understanding the role of places in city regions and rural Scotland*, Scottish Enterprise (April). Available at: http://www.scottish-enterprise.com/~/media/SE/Resources/Documents/STUV/Understanding-the-role-of-places.ashx.

[24] The 2008 Taylor Review of Rural Economy and Affordable Housing in England addressed similar questions regarding the role of towns in rural England. More information is available at: http://www.communities.gov.uk/publications/planningandbuilding/livingworkingcountryside.

[25] Further research has also been conducted on this issue: see for example, Courtney, P., Lepicier, D. and Schmitt, B. (2008) Spatial patterns of production linkages in the context of Europe's small towns: How are rural firms linked to the local economy? *Regional Studies*, 42(3), pp. 355 – 374; Courtney, P., Mayfield, L., Tranter, R., Jones, P. and Errington, A. (2007) Small towns as 'sub-poles' in English rural development: investigating rural-urban linkages using sub-regional Social Accounting Matrices. Geoforum, 38, pp. 1219-1232.

Table 1: Net annual household income by sixfold Urban Rural Classification

	Up to £10,000 (%)	£10,001 to £20,000 (%)	£20,001 to £30,000 (%)	£30,001 to £40,000 (%)	Over £40,000 (%)
2009/2010					
Large urban areas	20	36	20	13	13
Other urban areas	18	36	21	13	12
Accessible small towns	17	32	22	15	14
Remote small towns	17	35	23	12	13
Accessible rural	15	28	20	16	20
Remote rural	16	31	24	14	14
All	18	34	21	14	14
Base	*4,906*	*9,395*	*5,649*	*3,687*	*3,684*

Source: Scottish Household Survey 2009/10. Data provided by the Scottish Government.

Table 2 shows net migration by age group for people moving within Scotland using the sixfold Urban Rural Classification (excluding rest of UK/overseas migration). The data illustrates the movement of people of all ages except 16-24 out of Scotland's large urban areas, and the movement of people of all ages except 65+ out of Scotland's other urban areas. People in the retirement age group appear to be moving out of Scotland's large urban and rural areas. Remote small towns are losing population in three age bands, including the youngest age groups and those aged 35-44, suggesting some out-migration by those of 'mid working age' and their families. Accessible small towns are losing people in the 45-64 age group.

Table 2: Net levels of migration for people moving within Scotland using the sixfold Urban Rural Classification, 2009-10

	Total net migration (2010)	0-15	16-24	25-34	35-44	45-64	65+
1	Large Urban Areas	-2321	3945	-1756	-1710	-1224	-735
2	Other Urban Areas	-98	-158	-255	-321	-224	848
3	Accessible Small Towns	110	-843	10	138	-120	48
4	Remote Small Towns	-136	-467	17	-106	155	229
5	Accessible Rural	1911	-1315	1720	1590	1053	-154
6	Remote Rural	534	-1162	264	409	360	-236

Source: Migration flows by sixfold Urban Rural classification (2010) by age group, 2009/10; migration estimates are those associated with mid-year estimates. Note: data excludes rest of UK/overseas migration. Data provided by the National Records of Scotland (NRS)[26].

Table 3 shows a breakdown of the proportions of enterprises operating in Scotland by sector. The data shows the dominance of agriculture, forestry and fishing enterprises in accessible and remote rural Scotland. In contrast, the business profile of Scotland's small towns appears to be more diverse (particularly in accessible small towns), with over 20% of businesses in the wholesale, retail and repair sector in both accessible and remote small towns. The importance of the accommodation and food service activities sector (9.2% of enterprises in accessible small towns and 11.7% in remote small towns) and the professional and scientific and technical activities sector (16.4% of enterprises in accessible small towns and 11.2% in remote small towns) is also apparent. This data therefore reflects the important service sector function of Scotland's small towns, in terms of retail, business and personal service activities (this data can be read alongside the sectoral breakdown of employment data in Section 3.3)

Public sector enterprises (in terms of central and local government) are excluded from Table 3 but data is available for employment in the public sector in March 2011. Large urban and other urban areas had the highest proportions of employment in the public sector (as a proportion of Scotland's total employment in this sector) at 44.7% and 32.7% respectively. Accessible small towns had 3.8% of Scotland's total public sector employment, compared to 5.5% in remote small towns. For accessible and remote rural areas, the proportions were 9.3% and 4.1% respectively. Taken together, towns account for 9.3% of Scotland's employment in the public sector, compared to 13.3% in rural areas, and 77.4% in urban Scotland[27].

[26] Further analysis will be carried out through SAC's Rural Policy Centre to explore in-, out- and net migration for the age groups across the sixfold classification from 2003-2010 to see how the patterns have changed over time.
[27] Data provided by the Scottish Government ONS (Inter-Departmental Business Register) from March 2011.

Table 3: Proportions of enterprises in Scotland by Urban Rural classification and broad industry sector (March 2011)

Urban/ rural classification	Agriculture, forestry and fishing	Mining and quarrying; utilities	Manu-facturing	Costruc-tion	Wholsale, retail and repair	Transporta-tion and storage; information and commu-nication	Accom-modation and food service activities	Finacial and insurance activities, real estate activities	Professional, scientific and techni-cal activities	Administra-tive and sup-port service activities	Education, Human health and social work activities	Arts, enter-tainment and recreation; other service activities
Large Urban Areas	0.5	0.5	4.9	10.2	18.0	9.6	8.7	6.3	19.6	6.4	6.4	8.8
Other Urban Areas	2.5	0.6	6.5	12.9	20.6	8.1	9.4	3.9	14.3	6.1	6.1	9.0
Accessible Small Towns	3.2	0.4	5.8	14.2	20.2	8.0	9.2	3.2	16.4	6.0	5.9	7.7
Remote Small Towns	6.8	0.6	5.5	12.2	23.2	6.2	11.7	3.0	11.2	4.7	6.3	8.6
Accessible Rural	26.3	0.8	5.1	12.1	12.0	7.0	4.6	2.6	13.7	6.9	3.3	5.6
Remote Rural	35.7	0.7	4.5	10.8	11.2	5.3	8.3	1.9	7.9	5.2	3.2	5.5

Source: Data provided by the Scottish Government, ONS (Inter-Departmental Business Register).

Table 4 builds on this picture of economic activity to show the distribution of enterprises of different sizes across the sixfold Urban Rural Classification. The importance of microenterprises (0-9 employees) in rural Scotland is clear, while small towns have slightly below the Scottish average proportion of the smallest enterprises. Small towns are more similar to urban areas in terms of the proportions of medium and large enterprises. Remote small towns have a particularly high proportion of small enterprises (10-49 employees).

Table 4: Proportion of businesses of different sizes across the sixfold Urban Rural Classification

Number of employees	Large urban areas	Other urban areas	Accessible small towns	Remote small towns	Accessible rural	Remote rural	Scotland
0-9	81.7	81.2	84.5	80.7	89.0	91.5	86.8
10-49	11.2	12.0	9.5	12.4	6.9	6.0	9.3
50-249	3.8	3.7	2.8	3.5	2.1	1.4	2.4
250+	3.3	3.1	3.2	3.4	2.0	1.1	1.5
Total	**52,585**	**35,310**	**10,450**	**6,980**	**31,050**	**20,360**	**152,025**

Source: Scottish Government, ONS (Inter-Departmental Business Register). Counts of the number of enterprises operating within each urban/rural classification have been included. These do not sum to the total for Scotland, as the same enterprise may operate in more than one type of area.

This sub-section has drawn upon selected data to illustrate some of the differing characteristics of Scotland's urban and rural areas and small towns. The out-migration of people of working age and their families from remote small towns and of people of later working age from accessible small towns, may have implications for the future sustainability of these places, especially as demographic ageing continues (see Section 1.1 of this report). Taken as a whole, Scotland's small towns tend to have a more diverse economic base than Scotland's rural areas, although individual towns may have a dependence on one employer or industry which may threaten their future sustainability. The public sector accounts for just under 1 in 10 jobs across Scotland's small towns, however, some towns (particularly in remote areas) are more heavily dependent on the public sector, and may have few private sector employment alternatives for individuals who are forced to leave the public sector as budget and job cuts continue.

Using the Scottish Government's classification to explore the characteristics of rural and urban areas and small towns paints only part of the picture about settlements that perform a service function. There are other towns, both smaller and larger than the 3,000-10,000 small town population threshold, which are important service centres for their local and surrounding rural hinterland populations. In the next section, a Vulnerability Index is used to illustrate how vulnerability to ongoing economic and social processes may affect settlements in different locations and of different sizes.

2.5 A Vulnerability Index of settlements in Scotland

The Vulnerability Index, which was devised by Rose Regeneration and the Rural Services Network[28], provides a means of comparing the vulnerability of 90 different settlements across Scotland[29]. This builds on earlier work by the Rural Policy Centre based on 44 settlements selected from the 'Randall rural'[30] local authorities[31]. The 90 settlements are known to perform a service centre function for a local population and a surrounding rural hinterland. They are located across Scotland and are of varying sizes: 30 'other urban' areas (settlements of 10,000 to 125,000 population), 30 small towns (settlements of between 3,000 and 10,000 population) and 30 rural areas (settlements of less than 3,000 population). In the small town and rural categories, approximately half of the places are accessible (within 30 minutes drive time of a settlement of 10,000 people or more) and half are remote (with a drive time of over 30 minutes to a settlement of 10,000 people or more).

The 90 settlements were not chosen to be representative of all settlements across Scotland, or indeed of settlements in each of the respective classifications. Therefore conclusions should not be drawn regarding the vulnerability of these places vis-a-vis others that are not in the list. Nevertheless, the inclusion of 90 settlements gives a sound basis for analysis and allows conclusions to be drawn about the patterns of vulnerability amongst places in different locations and performing different functions.

The Vulnerability Index is based on four indicators: the proportion of the local population of working age, the proportion of the local population claiming Job Seekers Allowance, the proportion of the local population working in the public sector and a measure of income deprivation devised from the Scottish Index of

[28] Dan Bates of the Rural Services Network (www.rsnonline.org.uk) and Ivan Annibal of Rose Regeneration (www.roseregeneration.co.uk).
[29] Earlier work published by the Rural Policy Centre was based on a Vulnerability Index of Scottish local authorities. For more information, see: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/changingpublicbudgets/.
[30] Randall rural local authorities are those unitary authorities with a population density of less than one person per hectare.
[31] See: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/vulnerabilityindextowns/.

Multiple Deprivation (SIMD). These four indicators are combined to create the overall Vulnerability Index[32]. While only representing four features of a place, these indicators nevertheless reflect important current social and economic processes, in terms of ongoing weaknesses in the economy, public sector contraction and demographic shifts.

Comparisons can be made between the 90 settlements in a variety of ways. For example, by grouping them in terms of places of similar sizes (urban, small town and rural), or in terms of their location (accessible or remote), or places within the same local authority area. The vulnerability of the places in relation to each indicator separately can also be analysed.

Table 5 shows the vulnerability index ranking of all 90 settlements included in the analysis and Figure 1 maps this ranking for all 90 places. Figure 2 maps the vulnerability of all 90 according to each of the four indicators separately as it is interesting to see the impact of different processes in different places. Figure 3 separately maps the vulnerability of urban areas, small towns and rural areas in the list of 90 to enable comparisons between places of different sizes.

Table 5: Vulnerability Index for 90 settlements across Scotland

Settlements*	Sixfold Urban Rural Classification	Local Authority	Population	Rank (1 is most vulnerable)
Campbeltown (44)	Remote small town	Argyll and Bute	4840	1
Dunoon (48)	Remote small town	Argyll and Bute	9450	1
Girvan (50)	Remote small town	South Ayrshire	6890	3
Stranraer (29)	Other urban	Dumfries and Galloway	10380	4
Sanquhar (83)	Remote rural	Dumfries and Galloway	2030	5
Cumnock (46)	Remote small town	East Ayrshire	8990	6
Ayr (4)	Other urban	South Ayrshire	60880	7
Maybole (41)	Accessible small town	South Ayrshire	4690	8
Castlebay (88)	Remote rural	Western Isles	NA	9
Kilwinning (21)	Other urban	North Ayrshire	16380	10
East Wemyss (66)	Accessible rural	Fife	1720	11
Arbroath (2)	Other urban	Angus	22110	12
Ardrossan (3)	Other urban	North Ayrshire	31570	13
Dumfries (10)	Other urban	Dumfries and Galloway	31610	14
Eyemouth (36)	Accessible small town	Scottish Borders	3410	15
Kirriemuir (38)	Accessible small town	Angus	5750	16
Hawick (16)	Other urban	Scottish Borders	13990	17
Kilmarnock (20)	Other urban	East Ayrshire	44390	18
Kirkcaldy (22)	Other urban	Fife	48630	19
Alloa (1)	Other urban	Clackmannanshire	29020	20
Tain (58)	Remote small town	Highland	3420	20
Steòrnabhagh (Stornoway) (57)	Remote small town	Western Isles	5530	22
Airth (61)	Accessible rural	Falkirk	1660	23
Brechin (33)	Accessible small town	Angus	7070	24
Dalkeith (9)	Other urban	Midlothian	38940	25
Lochboisdale (81)	Remote rural	Western Isles	NA	26
Portree (82)	Remote rural	Highland	2100	27
Hamilton (15)	Other urban	South Lanarkshire	68770	28
Blairgowrie (42)	Remote small town	Perth and Kinross	8310	28
Keith (51)	Remote small town	Moray	4540	30
Fort William (49)	Remote small town	Highland	9680	31
Annan (31)	Accessible small town	Dumfries and Galloway	8450	32
Tranent (30)	Other urban	East Lothian	10440	33
Dingwall (47)	Remote small town	Highland	4970	34

[32] The analysis uses labour market statistics and Scottish Index of Multiple Deprivation data at 'data zone' level. Data zones are small area units that have populations of between 500 and 1,000. Each data zone is assigned separate location and settlement codes from which it was possible to identify the 90 towns in the analysis. Information for each town was established by aggregating the data for all of the data zones in that town. Recent data from 2011-12 is used for each indicator.

Buckie (43)	Remote small town	Moray	7960	35
Galashiels (14)	Other urban	Scottish Borders	14430	36
Thurso (59)	Remote small town	Highland	7470	37
Helensburgh (17)	Other urban	Argyll and Bute	15590	38
Mauchline (40)	Accessible small town	East Ayrshire	4010	39
Kirkcudbright (52)	Remote small town	Dumfries and Galloway	3240	39
Newtown St Boswells (69)	Accessible rural	Scottish Borders	1290	41
Dunfermline (11)	Other urban	Fife	78550	42
Twechar (72)	Accessible rural	East Dunbartonshire	1280	43
Galston (37)	Accessible small town	East Ayrshire	7710	44
Nairn (55)	Remote small town	Highland	8990	45
Falkirk (13)	Other urban	Falkirk	98940	46
Stirling (28)	Other urban	Stirling	45750	47
Cumbernauld (8)	Other urban	North Lanarkshire	50480	48
Elgin (12)	Other urban	Moray	21040	49
Kirkwall (53)	Remote small town	Orkney	6530	49
Rothes (71)	Accessible rural	Moray	1150	51
Ullapool (86)	Remote rural	Highland	1380	52
Lochmaddy (89)	Remote rural	Western Isles	NA	52
Penicuik (24)	Other urban	Midlothian	16010	54
Bathgate (5)	Other urban	West Lothian	23410	55
North Kessock (70)	Accessible rural	Highland	900	55
Inverness (18)	Other urban	Highland	56660	57
Dufftown (79)	Remote rural	Moray	1500	58
Tarbert (85)	Remote rural	Argyll and Bute	NA	59
Dunblane (35)	Accessible small town	Stirling	8940	60
Boness (6)	Other urban	Falkirk	14490	61
Crieff (45)	Remote small town	Perth and Kinross	7470	61
Lerwick (54)	Remote small town	Shetland	6400	63
Perth (25)	Other urban	Perth and Kinross	44820	64
Langholm (80)	Remote rural	Dumfries and Galloway	2150	65
Baile a' Mhanaich (Balivanich) (78)	Remote rural	Western Isles	NA	66
Peterhead (26)	Other urban	Aberdeenshire	17450	67
Turriff (60)	Remote small town	Aberdeenshire	4920	68
Oban (56)	Remote small town	Oban	8120	69
Stromness (84)	Remote rural	Orkney	1600	70
Doune (65)	Accessible rural	Stirling	1600	71
Fairlie (67)	Accessible rural	North Ayrshire	1530	71
Carnoustie (7)	Other urban	Angus	10780	73
Callander (34)	Accessible small town	Stirling	3100	74
Alford (77)	Remote rural	Aberdeenshire	2190	74
Pitlochry (90)	Remote rural	Perth and Kinross	2690	76
Roslin (75)	Accessible rural	Midlothian	1820	77
Longniddry (68)	Accessible rural	East Lothian	2450	78
Leuchars (39)	Accessible small town	Fife	3730	79
Aberfeldy (76)	Remote rural	Perth and Kinross	1930	80
Inverurie (19)	Other urban	Aberdeenshire	11030	81
St Andrews (27)	Other urban	Fife	16680	82

Almondbank (62)	Accessible rural	Perth and Kinross	1270	83
Banchory (32)	Accessible small town	Aberdeenshire	6850	84
Coupar Angus (73)	Accessible rural	Perth and Kinross	2190	85
Aviemore (87)	Remote rural	Highland	2660	86
Linlithgow (23)	Other urban	West Lothian	13360	87
Blackburn (63)	Accessible rural	Aberdeenshire	2540	88
Chapelton (64)	Accessible rural	South Lanarkshire	760	89
Newburgh (74)	Accessible rural	Aberdeenshire	1320	90

Source: Analysis undertaken by Dan Bates of the Rural Services Network. Population data is based on mid-2008 population estimates[33].

* Settlement ID numbers for Figure 1

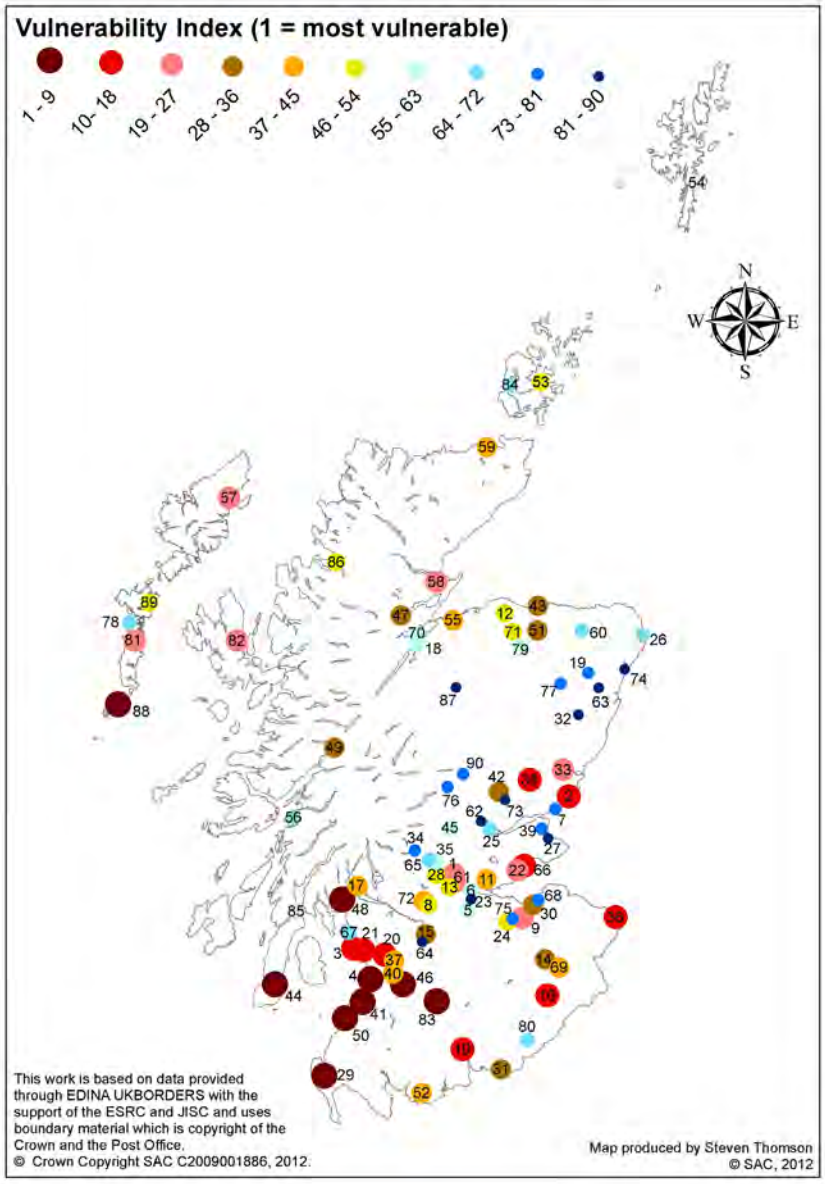


Figure 1: Vulnerability Index for 90 settlements across Scotland

A number of observations can be made about the data presented for all 90 settlements. From Table 5 it can be seen that there is a ***predominance of other urban areas and small towns (and particularly remote small towns) amongst the most vulnerable places***. Only two rural areas feature in the top ten most vulnerable (Sanquhar and Castlebay) and both are remote. Generally speaking, it seems that other urban areas tend to feature most prominently in the top twenty most vulnerable settlements, with small towns (and particularly remote small towns) commonly featuring in ranking positions 20-40. At the same time, there are ***four remote small towns amongst the top six most vulnerable settlements*** (Campbeltown, Dunoon, Girvan and Cumnock). All of these four places are likely to perform an important service centre function for their local and hinterland populations, particularly given their population sizes and relative remoteness. In contrast, rural areas feature more strongly in the second half of the table (i.e. ranking positions 50 to 90), with accessible rural areas most likely to feature amongst the least vulnerable of the settlements selected.

Table 5 can also be analysed to explore the spread of places across local authority areas. ***Local authorities in the south west of Scotland are featured heavily in the top 20 most vulnerable settlements***, including Argyll and Bute, South Ayrshire, Dumfries and Galloway, East Ayrshire and North Ayrshire. In contrast, Aberdeenshire, Perth and Kinross and the Lothians feature more frequently amongst the 20 settlements that demonstrate lower levels of vulnerability. Figure 1 confirms this focus of vulnerability in southern Scotland, and particularly in south west Scotland, where nine of the top ten most vulnerable places can be found. In contrast, places in northern and eastern Scotland appear less vulnerable overall. There are also vulnerable places in the Scottish Borders and close to the city of Dundee[34]. Remote Scotland also contains some vulnerable places, including the Western Isles (including Stornoway) and Skye (Portree). Again these places are important remote service centres, and their vulnerability could impact on their local and hinterland populations.

Figure 2 shows the vulnerability of the 90 settlements according to the four indicators separately. In terms of ***three of the four indicators*** (the proportion of the local population claiming JSA, of working age and working in the public sector), ***the clustering of places in the south west of Scotland is again apparent***. The importance of the public sector in some of the more remote places in the Highlands (particularly in island communities such as the Western Isles, Orkney and Shetland) is also evident. The data on JSA claimants apparently shows more geographic variation in terms of vulnerability, with high levels of JSA claimants (and therefore vulnerability on this indicator) also a feature of settlements in north east Scotland, unlike for the other three indicators.

[33] It is also important to note that, if comparisons are being made between this 2012 analysis and the 2011 work on 44 settlements, the rank order of the original 44 settlements may have changed in relation to one another as more up-to-date data has been used.

[34] It is interesting to reflect back on the local authority vulnerability work which was conducted in 2011 as this revealed Dundee City as being the most vulnerable of the 32 local authorities. For more information see: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/changingpublicbudgets/.

It is difficult to ascertain clear patterns from Figure 3 in terms of the vulnerability of places of different sizes (urban areas, towns and rural areas), except to note again the cluster of vulnerable urban areas and small towns in the south west of Scotland. For the rural areas, vulnerability appears to be more widely spread geographically, including across the Central Belt and into the Western Isles.

Figure 2: The vulnerability of the 90 settlements according to the four indicators separately

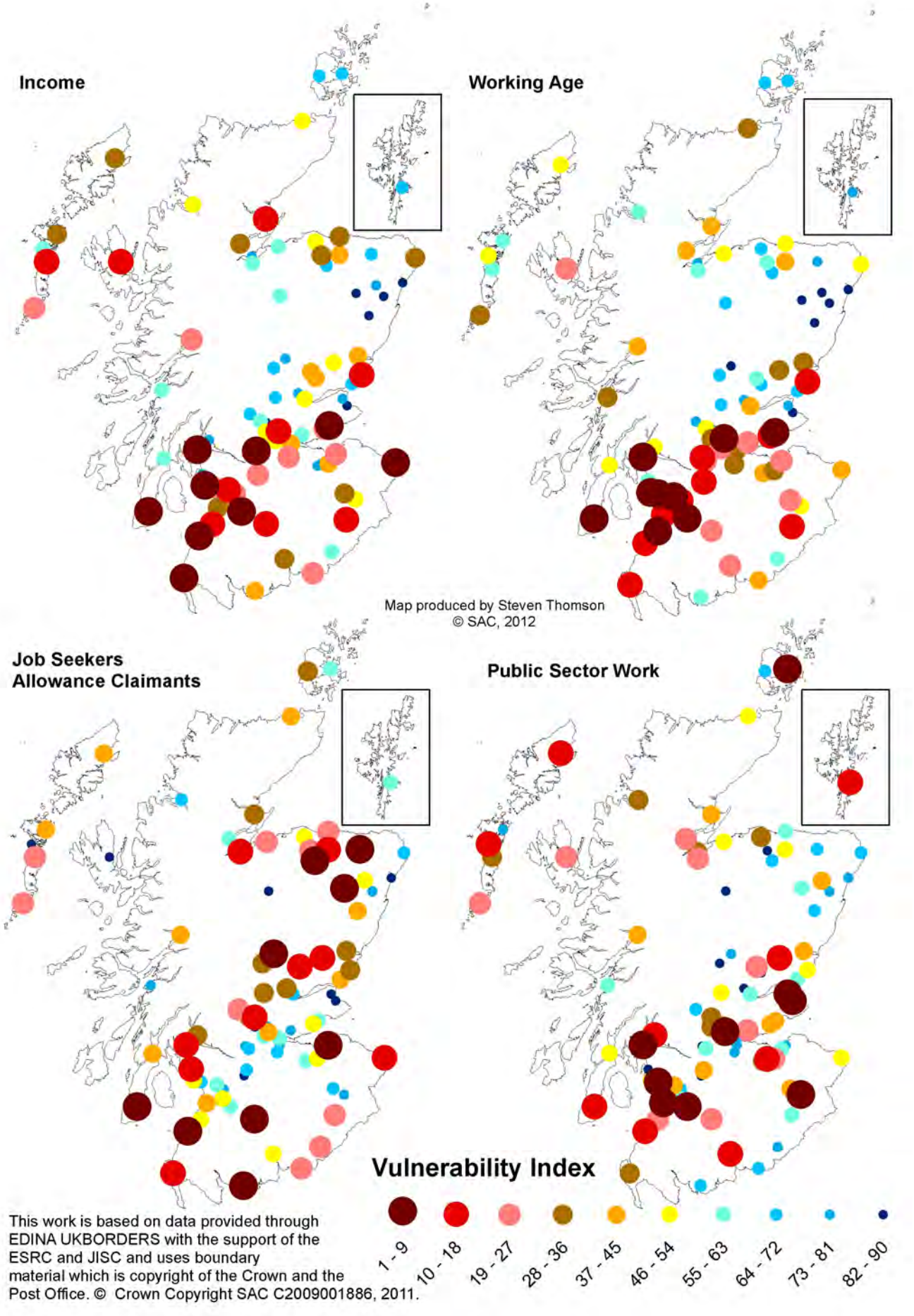
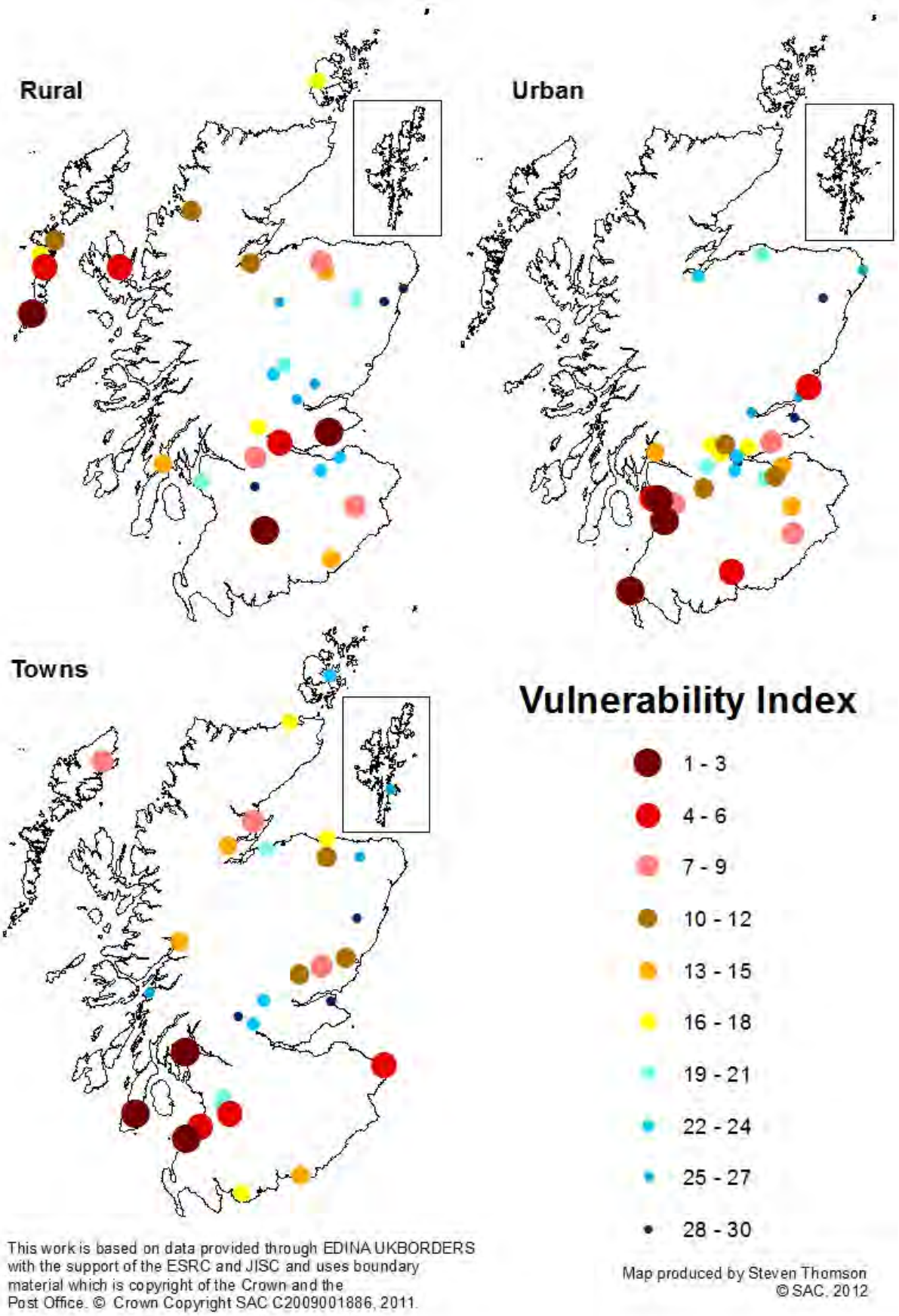


Figure 3: The vulnerability of rural areas, urban areas and small towns



There are some exceptions to the overall patterns described, however. For example, Maybole (in South Ayrshire) is an accessible small town which sits at 8th most vulnerable, and Eyemouth and Kirriemuir (both accessible small towns) are ranked 15th and 16th most vulnerable, respectively. Similarly, there are towns such as Banchory and Leuchars, and urban areas such as Inverurie and Linlithgow, which feature amongst the least vulnerable settlements. There are also remote settlements, including Aviemore and Aberfeldy, which feature amongst the least vulnerable.

In Focus: Agricultural towns: The spatial concentration of farm business transactions

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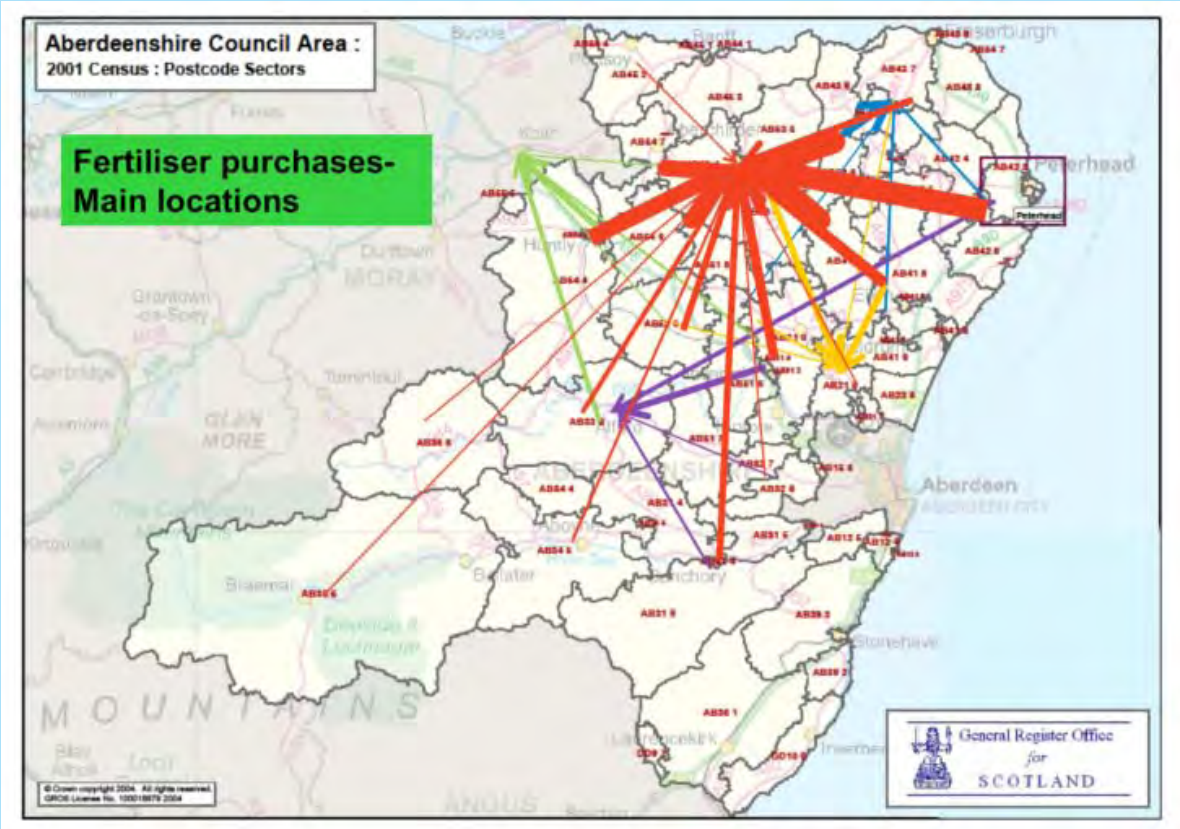
The European Commission and farm lobby groups often stress the importance of maintaining a strong agricultural sector for sustaining remote rural economies. However relatively little research has considered the relationship between farm businesses and their local towns, or how this may be changing over time. As part of a broader EU project on farm households and rural development ("CAP-IRE" http://www.cap-ire.eu/default.aspx), information was collected on farm-related economic transactions in a number of EU case study areas. The results indicated that the contribution of farm households to their immediate locality through farm labour, input purchases and/or output sales is highly context-specific and depends upon both demand and supply-side factors.

In the Scottish study area of North East Scotland, there is a highly complex pattern of farm production-related linkages, with transactions taking place over long distances from farm holdings and with a significant minority of farmers bypassing their local towns and even their most local input-suppliers and output purchasers (as shown in the map below for example). Further, certain towns in North East Scotland have come to dominate agriculture-related transactions, reflecting the long-run spatial concentration of upstream and downstream agribusinesses in the region as elsewhere. It follows that although agricultural production may be spread relatively evenly across rural space, a reduction in farm activity may lead to spatially concentrated rural development problems in so-called agricultural towns. Looking forward, the future relationship between the farm sector and the agricultural towns will depend on the purchasing and sales decisions of farmers and, in turn, the market awareness and price competitiveness of local agribusinesses.



While the Index provides a useful starting point from which to analyse the potential impacts of current (and future) changes on the sustainability of places, these exceptions emphasise the importance of exploring the functions of places and the characteristics of the wider region in which they are located in more detail when seeking to explain their vulnerability, in addition to their size and location. Aviemore and Aberfeldy, for example, have significant tourism sectors, which may help to sustain them during a time of public sector cuts. Linlithgow, Banchory and Inverurie are accessible commuting settlements which may again have assisted in reducing their vulnerability during difficult economic times and at a time of public sector cuts. Upstream and downstream transactions within particular sectors are also shaping the future role of towns as demonstrated in the example of Turriff in North East Scotland.

By examining the different functions of places, it may be possible to group them into a typology. Funding and policy measures can then be targeted to particular groups of places to support them most effectively. The 2008 Scottish Enterprise study created an economic typology of places[35] and recent work in England by the Rural Evidence Research Centre has developed a typology of small rural towns

[35] Scottish Enterprise (2008) *Understanding the role of places in city regions and rural Scotland*, Scottish Enterprise (April). Available at: http://www.scottish-enterprise.com/~/media/SE/Resources/Documents/STUV/Understanding-the-role-of-places.ashx

based on grouping them according to the demographic, economic and social characteristics of the people that live in them. More information about the typology is provided below.

In Focus: A typology of the smaller rural towns of England

Professor John Shepherd, Rural Evidence Research Centre (RERC), University of Birkbeck, London

The RERC typology of rural towns and large villages of England comprises eight groups or 'clusters' of just over 1,600 rural places with between 1,500 and 40,000 population in 2001 (significantly wider than Defra's definition of market towns as having 2,000-20,000 population. Each cluster is named after the dominant mix of social and economic variables defining the cluster: Middle Aged, Managerial Jobs; Single Persons, Routine Jobs; Older Persons, Leisure Jobs; Young Families, Administrative Jobs; Professionals, Commuting; Disadvantages, Routine Employment; Routine Jobs, Agriculture/Manufacturing; Age Mix, Professional Jobs.

The typology was designed to do several things including: to make rural settlements more easily recognisable as 'places' within the urban and rural definition of England and Wales and to cut across the 10,000 cut-off point between rural and urban; to provide a means of drawing attention to the significance of these places and to provide a shorthand way of describing the considerable social and economic variation among these places. These 1600 or so places are home to 11 million people (20% of the national and 80% of the rural population of England), the location of virtually all GPs, secondary schools, supermarkets and most primary schools serving rural areas. They account for over 35% of all work journeys in England and are the fastest growing element of the national settlement system.

More information on the typology, including how it is devised and how it has been used since its launch in 2009, is available at: http://www.rerc.ac.uk/findings/smalltowns.html.

2.6 Conclusions

Drawing on existing evidence and analysis, combined with new work on the vulnerability of settlements across Scotland, this section has explored the current and future role that places of different sizes play in Scotland's rural and regional development. Analysis of selected data using the Scottish Government's Urban Rural Classification has demonstrated that small towns (with 3,000-10,000 population) do have different characteristics to Scotland's rural and urban areas, for example, in terms of net migration trends across different age groups and the sectoral spread of private sector businesses. They therefore require specific policy responses.

The Urban Rural Classification is useful in enabling such comparisons to be made, but it has limitations. First, towns which are both smaller and larger than the 3,000-10,000 population thresholds perform vital service functions, but they are not recognised in the Urban Rural Classification as being towns. Further research is required to explore the characteristics and functions of all places which perform service functions for a local and hinterland population (and how these are evolving), and a socio-economic typology may be particularly useful here. This would enable towns which share similar characteristics to be grouped and policy and funding responses to be targeted accordingly.

Second, 'accessible' areas are classified as those within a 30 minute drive time of settlements of 10,000 or more. Thus, areas that are within 30 minutes drive time of centres with, say 7,000 or 8,000 people, are not considered to be accessible. Many of the everyday travel patterns (for employment, leisure, shopping, etc) of residents living around places with less than 10,000 population - which perform a vital service function, particularly in remote areas - are therefore not reflected in the Classification. It will be useful to undertake further research work to explore these travel patterns in more detail, particularly in the context of moves to a low carbon economy and changing patterns of work and employment.

A Vulnerability Index has been used to illustrate the varying vulnerability of selected settlements across Scotland, based on four indicators, namely public sector employment, the proportion of the population of working age, the proportion of the population claiming Job Seekers Allowance and an indicator of income deprivation. The analysis revealed a cluster of particularly vulnerable towns in southern Scotland, and particularly south west Scotland, in Dumfries and Galloway, North and South Ayrshire and Argyll and Bute. Towns in eastern and northern Scotland tend to demonstrate lower levels of vulnerability. There are some remote places outside the south west which demonstrate vulnerability (such as Campbeltown and Castlebay), but also some accessible places which are vulnerable (including West Weymss and Kirriemuir). The degree of complexity evident in the varying geography of vulnerability across Scotland however, suggests a more nuanced approach is required to understand the vulnerability of different places. Again, developing a typology of places may be useful in exploring the vulnerability and vibrancy of different places.

A range of ongoing processes are providing both opportunities and challenges for Scotland's towns, including the increasing mobility of people, goods and services, movement towards a low carbon Scotland, demographic ageing, changing housing demands, developments in information and communications technologies and public sector budgetary pressures. The impacts of these processes will vary depending on the characteristics, strengths, needs and responses of different places, and it is likely that greater variability will emerge between towns in future as some take advantage of economic and social change, but others do not.

For example, an influx of older residents may raise demand for health and social care services, but may also bring considerable financial resources as well as additional skills and experience to some towns. Evidence suggests that many older people wish to continue to be economically and socially active (including in terms of voluntary activity, setting up businesses, etc) beyond retirement age. The contraction of public sector services may have a variety of impacts. It is likely to place pressure on the voluntary and community sector to deliver more services (this is discussed in more detail in Section 4 of this report) and the public sector function of some settlements may be undermined as more services are delivered online. The private sector will be under greater pressure to absorb more employment. Shifts towards a low carbon economy, rising fuel prices and changing work patterns may bring positive impacts for towns (by boosting local employment and demand for services, for example), through the development of work hubs and business units (the implications of moves to a low carbon economy are discussed in more detail in Section 6 of this report). It is important that the impacts of these changes on the vulnerability (or indeed vibrancy) of places continue to be monitored to inform appropriate responses.

As argued by the Scottish Small Towns Task Group, Scotland's towns have not received substantial policy recognition. As the Scottish Government commits to introduce its Agenda for Cities, including a Cities Investment Fund and Scottish Cities Alliance, there is a danger that they may continue to fall into 'a policy gap'. Several actions could be taken to ensure that this does not occur. First, developing a typology of places based on socio-economic indicators which reflect key demographic and economic characteristics would help to illustrate and understand the ongoing challenges and opportunities facing Scotland's towns. Policy-makers would then be better informed about the best way to address these through policy and funding support. Such a typology would also allow longitudinal analysis to be undertaken to see how different places respond in different ways to change.

Second, in addition to a focus on the regeneration of town centres and their businesses, a broader place-based approach is needed (supported by detailed evidence-gathering), taking into account the different functions of towns, including in terms of employment, housing, transport, health and social care and retail service provision, and the roles of the public, private and third sectors in these different areas. Third, undertaking town and hinterland action plans will be useful in identifying these opportunities and challenges and potential practical responses to them. It is important that such an approach includes analysis of the wider economic and social relationships that exist between the town and surrounding rural and urban areas. This will ensure that the many different functions of towns are recognised and valued so that their contributions to regional and national development can be supported and enhanced in future.

3: What is the role of the private sector in the resilience of rural Scotland?

Artur Steinerowski and Jane Atterton

Key Messages

1. The private sector accounts for 83% of employment in remote rural Scotland, compared to 80% in accessible rural areas and 75% in the rest of Scotland. The private sector has increased in employment size in remote rural areas in recent years.
2. Rural areas have the highest density of businesses per head of population in Scotland, but these businesses are predominantly small. Microbusinesses provide 39% of employment in remote rural Scotland.
3. The primary sector still accounts for 17% of employment in the private sector in remote rural Scotland and 12% in accessible rural Scotland. Rural areas are also characterised by higher levels of self-employment, part-time and home-working and multiple job holding than the rest of Scotland.
4. Data suggests that accessible rural businesses have higher growth ambitions than businesses in remote rural areas and the rest of Scotland, with an increasing number of businesses indicating that they wish to grow.
5. A strong private sector also contributes to the social and environmental resilience of rural Scotland and it has an important role to play in enhancing the quality of life of those living in rural locations. These broader roles need to be recognised in policy support for the rural private sector.
6. In rural areas, support for the private sector should be seen as one part of an integrated, place-based policy for rural areas. Such a place-based approach requires cross-sectoral working, with different levels of government working together and collaboration between the public, private and third sectors.

3.1 Introduction

Rural Scotland is going through a period of economic and social transformation as a result of a number of different trends and processes. These include demographic shifts associated with migration and ageing patterns, globalisation, advances in communications technologies, new consumer preferences and demands, pressures on public sector budgets, and the ongoing economic downturn. These processes are bringing a range of opportunities and challenges for private sector businesses operating in rural Scotland.

For the purposes of this section, the private sector is taken to mean the part of the economy that is not controlled, owned or operated by the state[1]. The private sector encompasses all 'for profit' businesses (including small, medium and large enterprises) that are independently run by individuals and companies and not by government. Organisations that are run by the government are part of the public sector while charities and other non-profit organisations are part of the third sector[2].

Rural areas can be described as being places of both production and consumption. They are places where primary goods such as food are produced, but are also sites that individuals wish to live and work in and that people enjoy visiting and experiencing. By meeting these various production and consumption demands, private sector businesses generate employment and income and contribute to the diversification of rural economies. Private sector enterprises may engage in a range of entrepreneurial and innovative behaviour, for example, by increasing production from available resources, developing new products and services or increasing the effectiveness of existing products or services, and taking advantage of emerging market opportunities and moving out of declining market sectors. In economic terms, private sector enterprises in rural areas make an important contribution to the strength, sustainability and value-added of Scotland as a whole: overall, rural regions are estimated to account for over 25% of gross value added to the Scottish economy[3]. This is substantial when it is considered that rural Scotland is home to only 18% of Scotland's population. Important rural sectors such as food and drink, fisheries, forestry, energy and tourism, make a particularly significant contribution to Scotland's economic success and to its global identity[4].

However, it is not just in economic terms that the private sector makes an important contribution to maintaining and enhancing the resilience[5] of rural communities in Scotland. Having a strong and vibrant private sector can help to retain and attract in-migrants and further investment, which in turn contributes to growing the private sector and increasing the resilience of rural economies and the communities that depend on them. The strong inter-linking of rural businesses with households and communities means that the private sector plays a critical role in maintaining the health and vibrancy of rural areas. Businesses operating in the land-based and tourism sectors have a particularly important role to play in enhancing the quality of the rural environment and landscape.

The section starts by briefly reviewing existing policy support for the private sector, before discussing the key characteristics and the contribution of this sector to maintaining and enhancing the economic, social and environmental resilience of rural Scotland.

[1] http://oxforddictionaries.com/definition/private+sector.
[2] http://oxforddictionaries.com/definition/third%2Bsector?q=third+sector and http://oxforddictionaries.com/definition/public%2Bsector?q=public+sector. Also, for more information on the third sector see Section 4
[3] http://www.scotland.gov.uk/Resource/Doc/357504/0120772.pdf, p. 46.
[4] http://www.scotland.gov.uk/Publications/2011/03/08135330/0.
[5] Here community resilience is understood as the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise. Members of resilient communities intentionally respond to and influence change in order to sustain and renew the community; Magis, K. (2010), "Community Resilience: An Indicator of Social Sustainability", *Society & Natural Resources*, 23 (5): 401-416.

3.2 Policy support for the private sector in rural Scotland

The Scottish Government's Purpose is to increase sustainable economic growth. As part of its suite of indicators to measure progress towards achieving this, there is a National Indicator (that applies to Scotland as a whole), to increase the number of businesses, against a 2006 baseline[6]. The Scottish Government recognises the importance of having a strong private sector for economic growth and wealth creation, identifying that small businesses (which account for 98% of all enterprises in Scotland) create vital jobs and are often the lifeblood of local communities[7]. The Government's Regeneration Strategy also acknowledges the role of the private sector in assisting with the delivery of local development[8].

The Scottish Government's Economic Strategy, published in 2011[9], sets out in more detail the measures that the Government is taking to deliver its Purpose, to accelerate recovery, and to develop a more resilient and adaptable economy. The Strategy includes a number of targets relating to increasing economic growth, productivity, and competitiveness. The Strategy acknowledges the Government's role in maintaining and further investing in a supportive business environment, with a focus on growth companies, growth sectors and growth markets, through improving business support and strengthening levels of innovation[10]. The Strategy argues that the ability of Scotland's businesses to grow and be successful will depend on creating 'attractive, well-connected places to live and work that build on Scotland's natural assets in terms of cities, towns and rural areas'[11]. It makes particular reference to the importance of broadband and transport improvements to support the economic growth of remote communities.

The Strategy includes a contribution from Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, who discusses the 'particularly exciting' opportunities that exist for rural Scotland in terms of the renewable energy (including marine renewables), tourism and food and drink sectors[12],[13]. The Programme for Government in 2011-12, which was also published in Autumn 2011, also emphasises the importance of these sectors and notes that thriving businesses are important in building Scotland's vibrant communities[14]. The Economic Strategy notes the role of the Scottish Government in enabling 'rural Scotland to make the most of its assets to grow local economies and build stronger communities whilst protecting these assets from threats to their viability'[15]. The Strategy emphasises the need to create 'the conditions for talented people to live, work and remain in Scotland and to ensure that population growth supports the sustainability of many of our rural and coastal communities'[16].

Over recent years, the Scottish Government's support to the private sector in rural areas has tended to focus on providing assistance (including financial assistance) to the primary sector and to food and drink businesses, in particular. Much support comes through the Scotland Rural Development Programme (SRDP), worth £1.5 billion from 2007-2013, which seeks to facilitate the economic, environmental and social development of rural Scotland[17]. The SRDP has several key priorities including improved business viability and competitiveness and it identifies the particular importance of rural enterprise and business development, the diversification of economic activity, and rural tourism.

The 'Speak up for Rural Scotland' consultation document which was launched by the Rural Development Council in 2010[18] is based on the Council's vision for a prosperous rural Scotland, which includes 'competitive enterprises creating employment opportunities'. The document notes the importance of Scotland's rural economies in providing the natural resources required for high quality food production, tourism and recreation and power-generation opportunities, but acknowledges the challenges, such as lack of critical mass, distance to markets and limited infrastructure and access to networks, which can affect the ability of rural businesses to capitalise on their potential and improve their competitiveness. 'Our Rural Future: The Scottish Government's response to the Speak Up for Rural Scotland Consultation'[19] includes a set of 'Business and Skills priorities' encouraging businesses to make better use of the opportunities in existing local resources and partnerships (e.g. through engaging in business networks and accessing the support that is on offer). The Scottish Government also acknowledges the importance of businesses adding value locally and of improving access to finance. Finally, Our Rural Future notes the importance of ensuring that learning provision is adequate for the needs of rural communities and that the public sector puts in place more effective procurement mechanisms to keep spend in the local economy and boost local businesses and employment.

This brief overview of relevant policy documents highlights the emphasis placed by the Scottish Government on the natural resources of rural areas and the links made between creating a thriving private sector and strengthening rural communities. The section continues by describing the characteristics of the rural private sector (focusing on business density, business size and the sectoral distribution of businesses) and then exploring how it contributes to the economic, social and environmental resilience of rural Scotland.

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[6] http://www.scotland.gov.uk/About/scotPerforms/indicator/businesses
[7] http://www.scotland.gov.uk/About/scotPerforms/indicator/businesses for more information on this National Indicator.
[8] Achieving A Sustainable Future, Regeneration Strategy, The Scottish Government, Edinburgh 2011 http://scotland.gov.uk/Resource/Doc/364595/0123891.pdf
[9] http://www.scotland.gov.uk/Topics/Economy/EconomicStrategy.
[10] For more information on the Scottish Government's National Performance Framework and 2011 Government Economic Strategy, see: http://www.scotland.gov.uk/About/scotPerforms/purpose
[11] http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf, p. 37.
[12] http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf, p. 51-2.
[13] For more information see Section 6.
[14] Renewing Scotland: The Government's Programme for Scotland 2011-2012 (2011) Scottish Government; p. 46. Available online at: http://www.scotland.gov.uk/Publications/2011/09/08102006/13
[15] http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf, p. 73.
[16] http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf, p. 74.
[17] Rural Issues in Scotland, Scottish Government, http://www.scotland.gov.uk/Topics/farmingrural/Rural
[18] http://www.scotland.gov.uk/Publications/2010/07/22091602/0.
[19] http://www.scotland.gov.uk/Publications/2011/03/08135330/0.

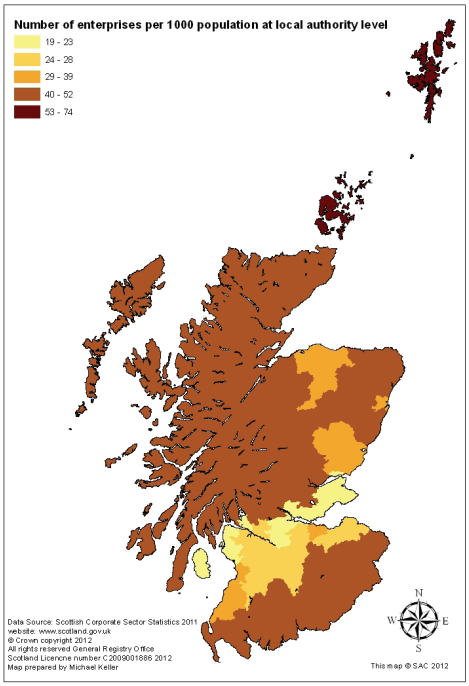
3.3 What are the characteristics of the private sector in rural Scotland?

3.3.1 Business density

Figure 1 shows the density of businesses per head of population for all local authorities in Scotland. The highest density is in rural Scotland and, in particular, Orkney and Shetland Islands, Highland and Dumfries and Galloway. The Scottish Borders and Aberdeenshire also have a relatively high business density. The lowest proportion of private businesses is located in the 'Central Belt'[20].

This pattern could be interpreted positively in that it may suggest that remote rural areas, or the people living within them, have entrepreneurial characteristics which encourage the creation of new businesses. Alternatively, high numbers of businesses may reflect an absence of alternative employment opportunities leaving people forced to set up new enterprises as a means of generating an income.

Figure 1: Density of enterprises per head of population (local authority level)



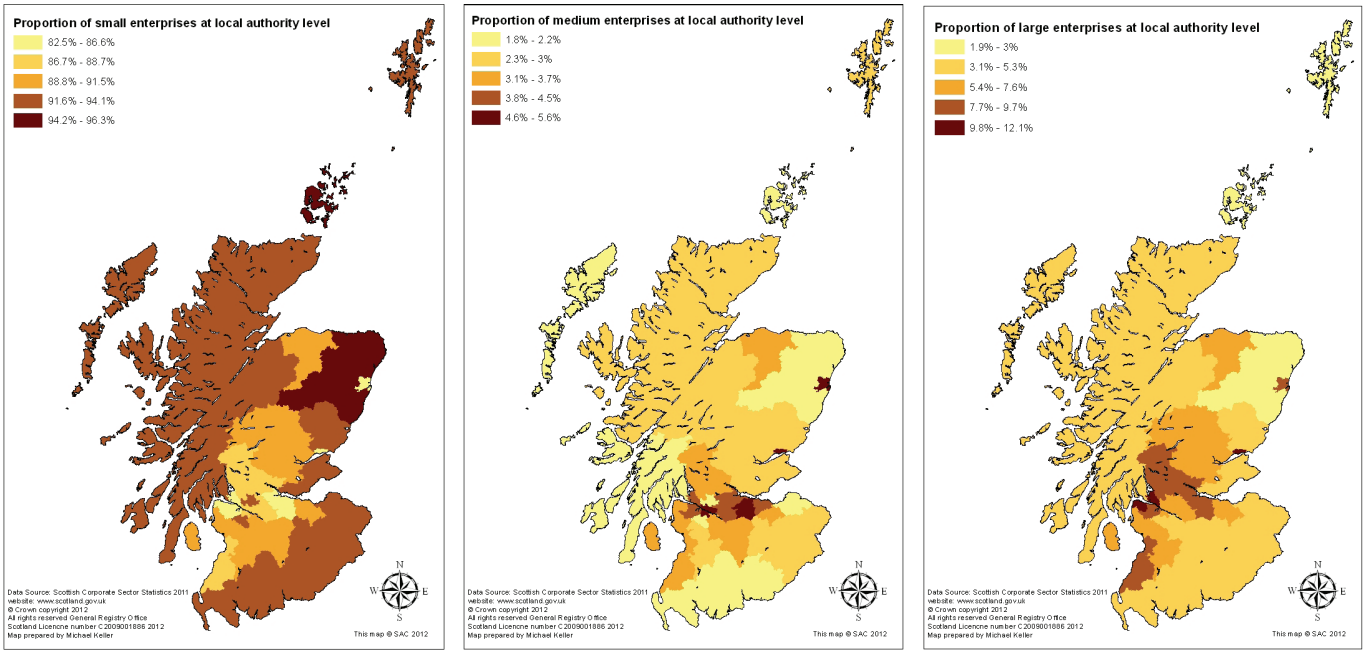
3.3.2 Business size in rural Scotland

Within the private sector, it is possible to identify businesses of different sizes. Small enterprises are usually defined as employing less than 50 people, medium-sized enterprises as employing 50-250 people, and large enterprises as employing more than 250 employees[21]. Microbusinesses are particularly important in rural areas, and these are defined as enterprises employing less than 10 people.

Figure 2 shows the distribution of small, medium and large enterprises across Scotland's local authorities. The maps show the dominance of small enterprises across rural local authorities (particularly in the North East of Scotland) but the importance of medium and large enterprises in the urban areas in, or close to, the 'Central Belt'[22].

As indicated in Figure 3, micro-enterprises – with 0-9 employees – account for 39% of all employment in remote rural Scotland, compared to 28% and 12% in accessible rural areas and the rest of Scotland, respectively. In contrast, large enterprises (250+ employees) account for 41% of employment in the rest of Scotland compared to 16% in remote rural areas and 27% in accessible rural areas. While some small and micro enterprises in rural areas are providing niche products and services for consumption locally, others are producing small quantities of specialist products for global markets that are too small for mass producers. Their small size means that they are flexible and able to make quick changes in response to changing consumer demands.

Figure 2: Density of small, medium and large enterprises per local authority

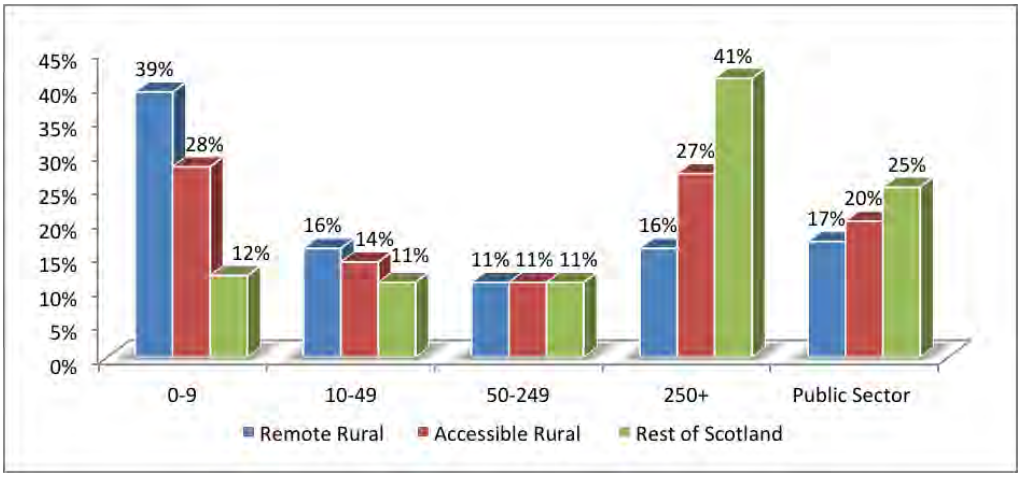


[20] See also Rural Scotland Key Facts 2011 – People and Communities, Services and Lifestyle, Economy and Enterprise (2011) Scottish Government. Available online at: http://www.scotland.gov.uk/Publications/2011/09/29133747/0 for additional data that confirms this pattern.

[21] Based on the UK definition of SMEs, sections 382 and 465 of the Companies Act 2006.

[22] See also Rural Scotland Key Facts 2011 – People and Communities, Services and Lifestyle, Economy and Enterprise (2011) Scottish Government. Available online at: http://www.scotland.gov.uk/Publications/2011/09/29133747/0 for additional data that confirms this pattern.

Figure 3: Employment by Industry Size and in the Public Sector by Geographic Area



Source: adapted from Rural Scotland Key Facts 2011

The following case study from the south of Scotland illustrates how, working together collaboratively, private sector organisations can contribute to building resilient rural economies.

In Focus: The role of the private sector in rural development - Savour the Flavours: Dumfries and Galloway

Liz Ramsay, Project Manager

Savour the Flavours was created by businesses in Dumfries and Galloway, with help from LEADER and Dumfries and Galloway Council. Savour the Flavours is an umbrella group responsible for promoting produce from the region. It aims to deliver a stronger and more robust food and drink industry in Dumfries and Galloway and its members include farmer producers, food manufacturers, retailers and delicatessens, farmers markets, hotels and chefs. The main activities of Savour the Flavours are business support and development, linking suppliers and local channels to market, marketing Dumfries and Galloway to the consumer as a source of excellent food and drink and education.

One of the key benefits that Savour the Flavours brings to Dumfries and Galloway is building stronger networks between those producing high quality produce and outlets such as restaurants, hotels and delicatessens. Local producers are therefore able to successfully target the consumer by combining efforts and jointly investing in the future. One way in which this is achieved, for example, is through local hotels which provide consumers with table top leaflets with details of local suppliers.

Savour the Flavours also organises Flavour Fortnight, a region-wide food festival which is designed to raise awareness and understanding of the high quality local food products available in the region. Events such as this, which bring large numbers of visitors to the region as well as attracting local people, would not be possible without Savour the Flavours as individual businesses on their own wouldn't have the time or resources to put in place such a full programme. The evaluation of the programme revealed that 237 local businesses participated and over 10,000 people attended events. 70% of businesses recorded an increase in turnover and 62% identified future business development opportunities as a result. Visitors were mostly local but 14% came from England and 10% from other areas of Scotland, with 19% of visitors staying overnight in the area.

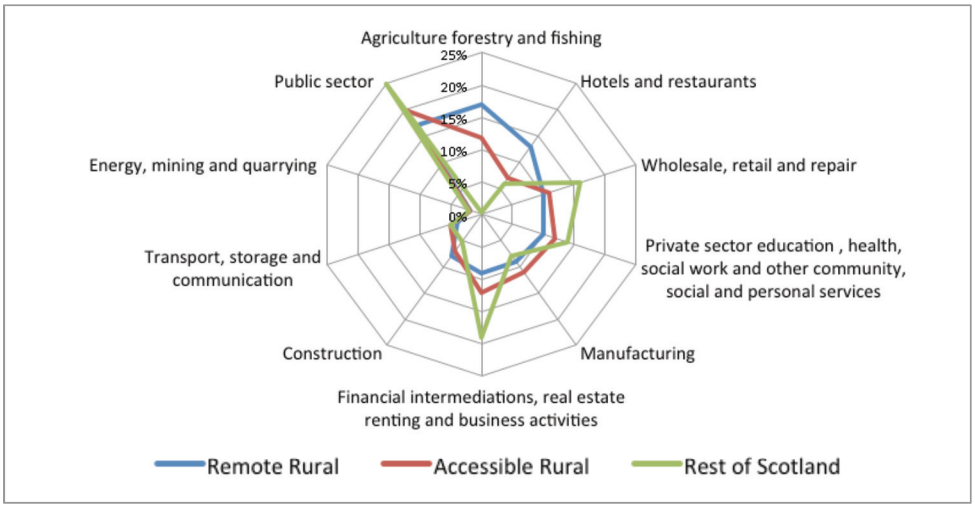
Savour the Flavours is also working to support other food-related initiatives in the region. These include the Dumfries and Galloway Chefs Association (which has 12 chefs from across the region acting as ambassadors) and Dumfries and Galloway Farmers and Community Markets Association.

Encouraging collaborative working and partnership approaches helps local businesses to respond quickly to opportunities and to be more competitive and sustainable. Regular face-to-face meetings between the organisation's staff and members helps to develop close working relationships based on mutual trust and respect. As well as being creative and innovative, the efforts of Savour the Flavours to add value, promote joint planning, share resources and take a longer approach to whole food chain viability, are specifically tailored to suit the needs of Dumfries and Galloway.

3.3.3 The sectoral distribution of businesses in rural Scotland

As shown in Figure 4, agriculture, forestry and fishing remain the largest sources of private sector employment in rural areas (17% in remote rural, 12% in accessible rural and only 1% in the rest of Scotland). The hotels and restaurants sector (often taken as a proxy for the tourism industry) provides 13% of employment in remote rural and 7% in accessible rural Scotland. Together with manufacturing (9% of employment in remote rural and 11% in accessible rural) and construction (8% and 7% of employment in remote and accessible rural areas respectively), these sectors provide more employment in rural areas than in the rest of Scotland. In contrast, activities such as financial intermediation (including financial and insurance activities), real estate, renting and business activities and wholesale, retail and repair account for more employment in the rest of Scotland. Overall, the rest of Scotland has 60% of its employment in the tertiary sector (including these latter activities) compared to 47% in remote rural and accessible rural areas.

Figure 4: Employment by Industry Size and in the Public Sector by Geographic Area in 2010[23]



Source: adapted from Rural Scotland Key Facts 2011

3.4 What is the role of the private sector in contributing to the resilience of rural Scotland?

3.4.1 Introduction

Section 3.3 has described the key characteristics of the private sector in rural Scotland. The remainder of the section draws on a range of information to discuss the contribution of the private sector to maintaining and enhancing the resilience of rural Scotland. This contribution is initially discussed in economic terms, but as noted earlier, the private sector makes a broader contribution in terms of social and environmental resilience and this is then discussed, drawing on some case study examples.

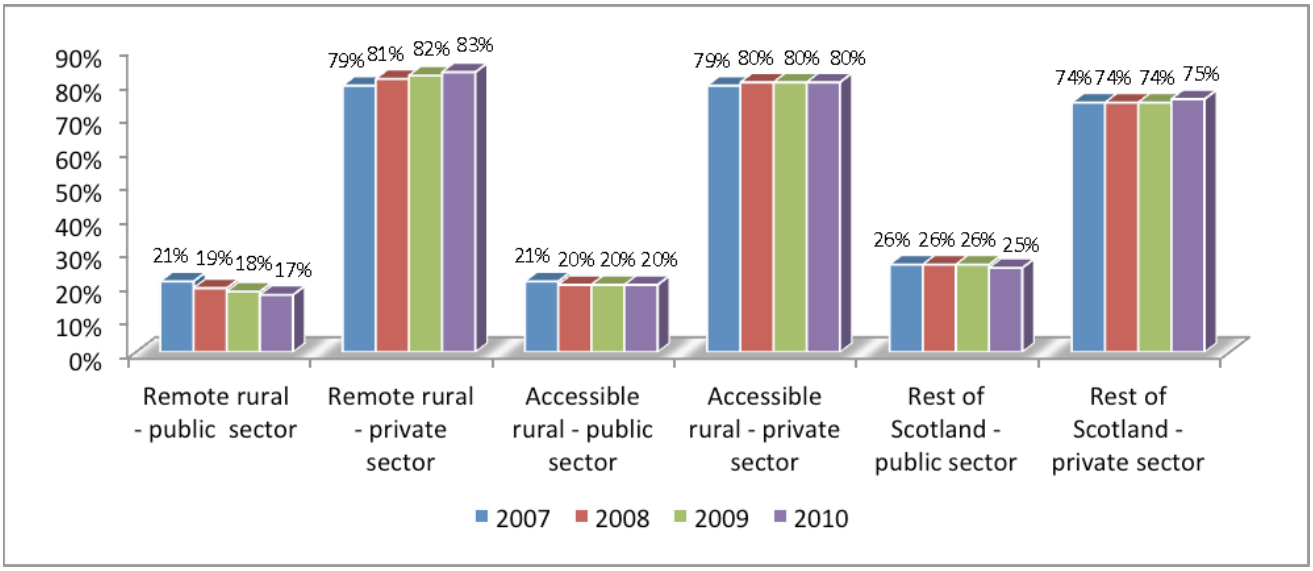
3.4.2 What is the role of the private sector in the economic resilience of rural Scotland?

Three key themes are used in Section 3.4.2 to discuss the contribution of the private sector in enhancing the economic resilience of rural Scotland: employment creation by the private sector and the different kinds of employment provided, business start-up and closure rates, and the growth and innovation behaviour of rural businesses.

Employment in rural Scotland

One of the most important roles of the private sector is job creation. Figure 5 shows changes in employment between 2007 and 2010 in the public and private sectors. The private sector accounts for 83% of employment in remote rural areas and 80% in accessible rural areas, compared to 75% in the rest of Scotland. As discussed earlier, however, the businesses operating in this sector are smaller on average than in the urban areas of Scotland. The proportion of employment in the private sector has increased year-on-year recently, whilst it has declined in the public sector, and again this is particularly the case in remote rural Scotland.

Figure 5: Changes in employment between 2007 and 2010 in the private and public sectors by geographic area



Source: adapted from Rural Scotland Key Facts 2008-2011

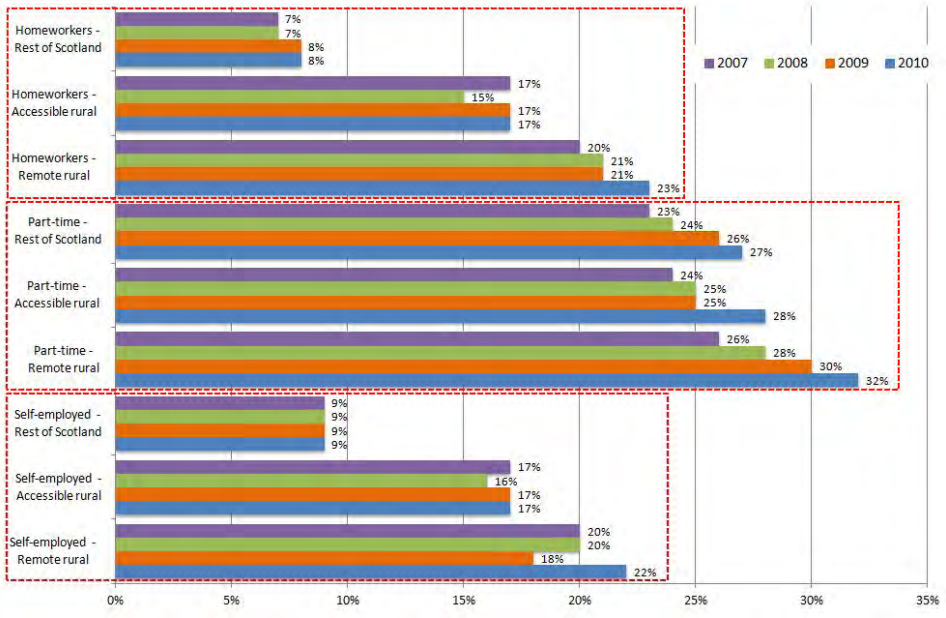
[23] Rural Scotland Key facts 2011; shows employment in enterprises in Scotland registered for VAT and/or PAYE.

There are several other features of employment in rural areas which are important to acknowledge (see Figure 6). Firstly, self-employment is a particular feature, with 22% of all those employed (and 29% of employed males) falling into this category in remote rural areas, compared to 17% in accessible rural areas and 9% in the rest of Scotland. It is worth noting that between 2007 and 2010, the number of self-employed people increased in remote rural Scotland by 2% but remained relatively static elsewhere. In addition to (or instead of) generating financial/gain reward, individuals may have a range of motivations to enter self-employment, including a desire to be their own boss or opening up an opportunity and a freedom to use personal creativity to shape a career.

Secondly, 32% of all those in employment in remote rural Scotland are working part-time, compared to 28% and 27% in accessible rural areas and the rest of Scotland respectively. Over the last few years, the number of people in part-time employment increased across Scotland, but especially in remote rural areas. There is a lack of evidence about the extent to which those working part-time are doing this through choice or necessity, because there is a lack of full-time jobs locally or because their skills do not match the full-time employment options that are available.

A third important feature of employment in rural Scotland is homeworking: 23% of all those in employment in remote rural Scotland are homeworkers, compared to 17% in accessible rural areas and 8% in the rest of Scotland[24]. As presented in Figure 6, the proportion of people working from home has increased in recent years, particularly in remote rural areas, highlighting the growing number of people who are substantially changing their travel to work and employment behaviour. Other surveys have confirmed the importance of home-based businesses in rural areas. For example, in rural business survey work in the North East of England in 2009[25], almost 40% of respondents reported that their business was attached to or part of their home (excluding farms). This suggests that rural business owners are taking advantage of improvements in technology, and particularly broadband provision, to base their business at home. This trend may also have wider implications, including reducing the negative environmental impacts associated with long commuting journeys, generating additional local economic activity and providing a flexible employment option for those with caring responsibilities. Further research is required to ascertain the extent and impact of these processes.

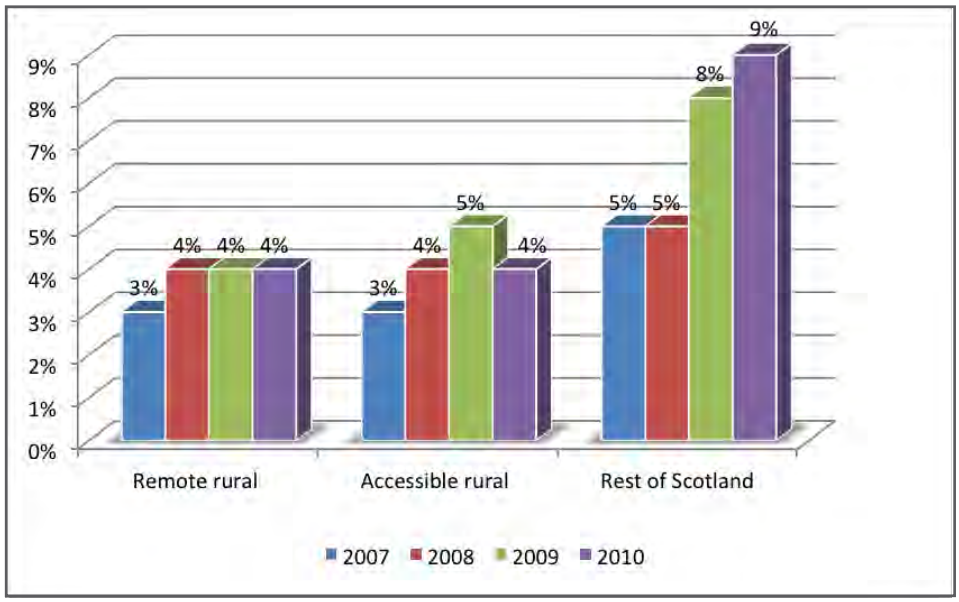
Figure 6: Changing types of employment from 2007 to 2010 by geographic area



Source: adapted from Rural Scotland Key Facts 2008-2011

Fourthly, rural Scotland has a higher proportion of people who have a second job: 9% of those in employment in remote rural Scotland report that they have a second job, compared to 4% in accessible rural Scotland and in the rest of Scotland. Again, evidence is not widely available on the extent to which these individuals are taking on second jobs through choice or necessity[26],[27]. Finally, as discussed in Section 1.2, reported unemployment rates tend to be lower in rural Scotland than in urban Scotland. Figure 7 combines data from recent years to show how unemployment rates have changed.

Figure 7: Unemployment rates between 2007 and 2010 by geographic area



Source: adapted from Rural Scotland Key Facts 2008-2011

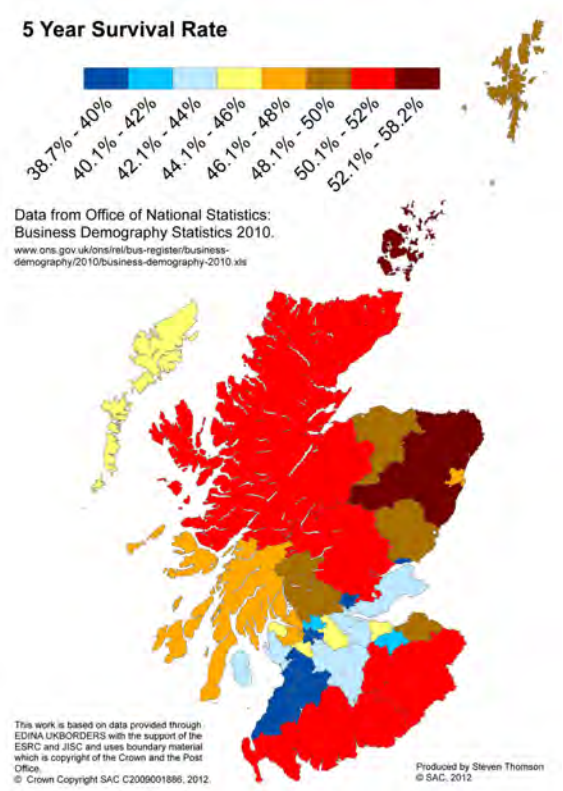
[24] Homeworkers are defined as people who work mainly in their own home, or in different places using home as a base, in their main job. This excludes people who are on government employment and training schemes.
[25] http://www.ncl.ac.uk/cre/publish/researchreports/RBSReportFINAL.pdf.
[26] Wilson, R. and Edwards, T. (2008) Barriers to Rural Economic Development in Scotland, Report submitted to Scottish Enterprise Borders on behalf of the Scottish Enterprise Rural Group and Partners (March). Available online at: http://www.scottish-enterprise.com/about-us/how-we-work/resources/research/rural-research.aspx. This report concludes that rural entrepreneurs are more likely to have a need to develop an additional source of income.
[27] This data is all taken from Rural Scotland Key Facts 2011. See: http://www.scotland.gov.uk/Publications/2011/09/29133747/0.

In 2010, unemployment in both remote and accessible Scotland was 4% compared to 9% in the rest of Scotland[28]. Again, this data could be interpreted positively as suggesting that rural dwellers are less likely to be in unemployed. Also, it could be suggested that rural economies are more resilient and capable of adapting to the current economic challenges, particularly as unemployment levels in rural areas have risen by lower rates between 2007 and 2010, than in the rest of Scotland. However, the lower rate may also be the result of out-migration by those who are unemployed to urban areas where job opportunities are likely to be more numerous and varied, those who are unemployed in rural areas being less likely to claim the benefits to which they are entitled (and therefore remaining hidden from statistics), and the availability of seasonal employment meaning that people do not remain unemployed for long periods.

Business creation in rural Scotland

As noted earlier, rural areas have a higher business density than the rest of Scotland. Interestingly, and as indicated in Figure 8, businesses operating in rural areas of Scotland are characterised by a higher survival rate than businesses operating in the rest of Scotland. This is evident, particularly, in Orkney and Aberdeenshire.

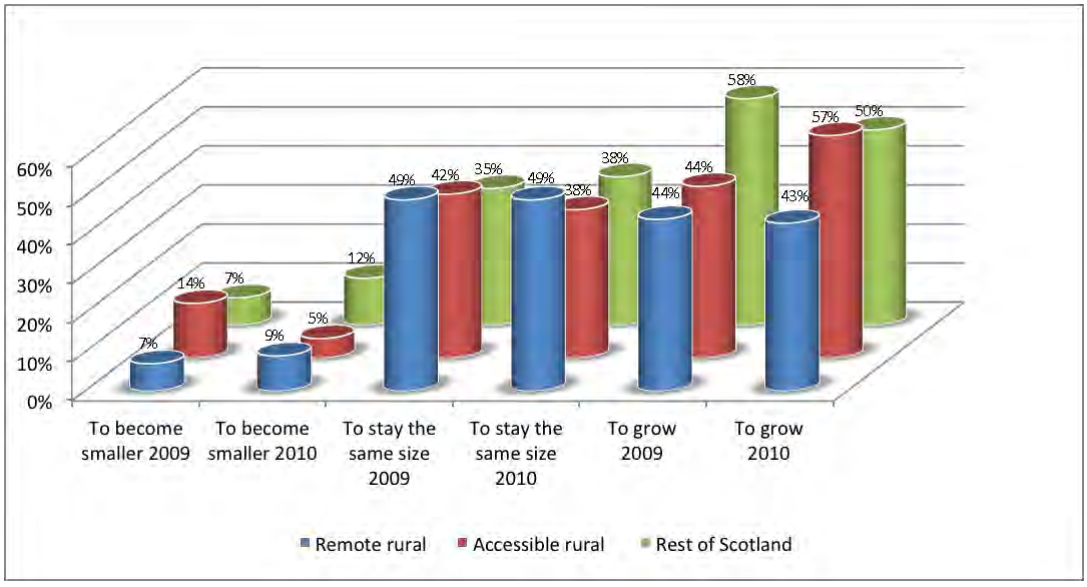
Figure 8: Survival Rate of the private sector businesses



Rural areas have been increasingly recognised as good places in which to live and to set up a business, and those new businesses that have moved in play an important role in helping to diversify rural economies. There are many examples of rural businesses undertaking new activities, sometimes linked back to the land-based sector and harnessing Scotland's natural resources, including producing niche, value-added food products, leisure, catering and tourism services and renewable energy generation. Improvements to broadband in many (though by no means all) rural areas also mean that private sector businesses are able to diversify into, or set up in, new 'knowledge-based' sectors, such as web or graphic design or market research. Companies operating in these sectors do not have large bulky products to transfer to market and can do much of their marketing, networking and selling over the internet. They therefore have more flexibility over where they can be located[29].

New enterprise creation by the private sector is critical in diversifying and strengthening rural economies and thus creating more resilient rural locations. It also helps to improve the profile of Scotland worldwide, drawing on the high quality natural resources of rural Scotland, thus contributing to a growing tourist industry (with knock-on effects on other industries) and generating additional income.

Figure 9: Growth ambitions of SMEs over the next three years in 2009 and 2010 by geographic area



Source: adapted from Rural Scotland Key Facts 2010-2011

Growth and innovation by rural businesses

Previous research on the behaviour of rural businesses has found conflicting results with regard to their potential for growth and to introduce innovations. Some research has found that rural businesses tend to be less growth-oriented than urban businesses, with rural businesses (often those in the tourism or arts and crafts sectors) sometimes referred to as 'lifestyle businesses'. This reflects the fact that owners are motivated to set up their business for reasons other than personal profit. For example, they may wish to achieve a more positive work/life balance, take on a new challenge, develop a personal interest or exploit a market opportunity[30].

Figure 9 demonstrates how the growth aspirations of businesses across Scotland have changed in the last couple of years and how they vary across Scotland. Accessible rural areas were the only areas to see a decline in the proportion of businesses wishing to become smaller between 2009 and 2010, and the only areas to see an increase in the proportion of businesses wishing to grow. This may suggest that these areas provide a good nurturing ground for business development, despite the current economic climate.

[28] http://www.scotland.gov.uk/Publications/2011/09/29133747/0.
[29] See for example: Galloway, L., Sanders, J. and Deakins, D. (2011) Rural small firms' use of the internet: From global to local, Journal of Rural Studies 27, pp. 254-262.
[30] http://www.ncl.ac.uk/cre/publish/researchreports/RBSReportFINAL.pdf

In taking advantage of new opportunities to diversify rural economies and add value to rural products, rural business owners are demonstrating considerable innovation. Yet, previous research on the innovative behaviour of rural businesses has again found conflicting results, with some research arguing that rural businesses are required to be more innovative due to the challenges they face with regard to their location, but other research arguing that they are less innovative as they tend to operate in less competitive environments. Recent rural business survey work in the North East of England[31] found that rural businesses are innovative, although often these innovations are small scale and incremental (such as introducing new software or new telephone or accounting systems), and therefore do not show up in traditional methods of measuring innovation which rely on patent data or spending on R&D (research and development), for example[32].

It is recognised that rural businesses may face particular challenges in growing and innovating due to the limitations of their location. These include the limited nature of local markets, the cost of transporting products to larger urban markets and the distance from services, including advice and training providers. Recent data has shown that tax and regulations were perceived to be the most significant obstacle to success for SMEs in remote rural Scotland, with finance perceived to be the second most significant obstacle[33]. Rural business survey work in the North East of England also found that increased regulation and a shortage of finance/the high cost of borrowing as particularly important barriers to growth, alongside concerns about the economic climate[34]. Other barriers included a lack of workspace, difficulties recruiting skilled staff, and broadband provision[35] that was inadequate for their future needs. Further work on barriers to rural economic development in Scotland was undertaken in 2008 for Scottish Enterprise, and this work revealed that planning regulations were an important barrier (particularly amongst those wishing to diversify farm businesses), and were seen as overly complex, with slow resolution times, and a lack of understanding and support by local planning officers.

3.4.3 What is the role of the private sector in the social and environmental resilience of rural Scotland?

As noted earlier, the rural private sector can play a broader role in strengthening the resilience of rural Scotland, over and above its economic contribution. This section draws on existing research and case study information to illustrate the contributions that rural businesses can make to enhancing the social and environmental resilience of rural areas. As a result of a range of factors that are explored here, the contribution of the private sector to enhancing the resilience in rural communities may be greater than that in urban communities.

Business creation by rural in-migrants

In-migration has been a key feature of many accessible rural areas in Scotland in recent years. For example, from 2007-08, accessible rural areas saw a level of net in-migration equivalent to 1.6% of the population[36]; for 2008-09 the figure was 1.1%[37]. No systematic evidence is available on the role of in-migrants in business creation in rural Scotland, nor on the extent to which a strong business sector encourages in-migration into rural areas, but these processes are likely to be closely interconnected. Moreover, we know little about whether in-migrants are setting up profit-maximising or lifestyle oriented businesses, whether they are setting up in similar sectors to local business owners or in new sectors, thereby helping to diversify rural economies, or whether they are deciding to set up a business before or after they move to a rural area.

Evidence from England suggests that in-migrants are an important source of new rural business formation and therefore job creation in rural areas[38],[39]. They also boost local population levels (thereby also increasing demand for local public and private sector services) and bring new skills, network relationships, knowledge, ideas and experience, thereby strengthening the social resilience of communities[40],[41]. At the same time, the influx of large numbers of in-migrants to rural communities may bring challenges to resilience by creating social tensions and conflicts.

The inter-relationships between businesses and households, communities and their environment

Evidence suggests that rural businesses are more closely tied into their local communities than urban businesses. Many rural businesses demonstrate considerable loyalty to their local area, and this is particularly the case for businesses that are serving local markets or that are relying on local suppliers. This is demonstrated in the strong overlapping or embeddedness of economic and social relationships and ties in rural areas. This close relationship may assist the rural private sector in remaining more resilient during difficult economic times. For example, research conducted during the foot and mouth disease crisis in 2001 in northern England found that rural businesses demonstrated considerable resilience in surviving the outbreak. This was because households acted as a buffer for micro-businesses, absorbing revenue and employment effects through adjustments in the wage taken from the business, restrictions in household spend,

[31] http://www.ncl.ac.uk/cre/publish/researchreports/RBSReportFINAL.pdf for more information.
[32] Work is currently being undertaken in SAC to explore current and potential levels of innovation in the land-based sector in Scotland. This project will include mapping of the innovation system in Scotland and in-depth exploration of selected case study innovations. For more information on this project, please contact alan.renwick@sac.ac.uk.
[33] http://www.scotland.gov.uk/Publications/2011/09/29133747/0.
[34] http://www.ncl.ac.uk/cre/publish/researchreports/RBSReportFINAL.pdf for more information.
[35] For more information see Section 5.
[36] http://www.scotland.gov.uk/Publications/2010/09/17092437/0 See also Section 1.1 in this report.
[37] http://www.scotland.gov.uk/Publications/2011/09/29133747/0.
[38] See for example, Bosworth, G. (2006) Counterurbanisation and Job Creation: Entrepreneurial In-migration and Rural Economic Development, Discussion Paper No. 4, Centre for Rural Economy, Newcastle. Available online at: http://www.ncl.ac.uk/cre/publish/discussionpapers/pdfs/dp4.pdf; Bosworth, G. (2008) Entrepreneurial in-migrants and economic development in rural England, International Journal of Entrepreneurship and Small Business, 6(3), pp. 355-369; Stockdale, A. and Findlay, A. (2004) Rural in-migration: A catalyst for economic regeneration. Paper presented at the Global Change and Human Mobility ICG-UK Conference, Glasgow (August).
[39] http://www.ncl.ac.uk/cre/publish/discussionpapers/pdfs/dp4.pdf for more information.
[40] Atterton, J. (2005) Networking in the Highlands and Islands of Scotland: A Case Study of the Embeddedness of Firms in Three Small Towns, Unpublished PhD thesis University of Aberdeen; Atterton, J. (2007) The 'Strength of Weak Ties': social networking by business owners in the Highlands and Islands of Scotland, Sociologia Ruralis 47 (3), pp. 228-245.
[41] Stockdale, A. (2006) Migration: pre-requisite for rural economic regeneration? Journal of Rural Studies 22 pp. 354-366; Stockdale, A. and Findlay, A (2004) Rural in-migration: A catalyst for economic regeneration. Paper presented at the Global Change and Human Mobility ICG-UK Conference, Glasgow (August).

the deployment of personal savings and the use of household members as a flexible labour reserve[42]. More recent survey work in 2009 with members of the Federation of Small Businesses, confirmed that rural businesses may be more likely to do better and remain confident during difficult economic times as they tend to be more embedded in the local environment, which acts as a support. They also tend to have a more stable and supportive customer base, combined with fewer competitors, and are more likely to be reliant on internal rather than external finance[43], with the latter being a major source of concern during an economic downturn.

This strong overlapping of economic and social relationships may be due to a number of different factors, including distance or remoteness from major markets and centres of population, or the low critical mass of private sector businesses. It may also be because SMEs in rural Scotland tend to be longer established than SMEs located elsewhere, with 50% of remote rural SMEs over 15 years old, compared to 43% in accessible rural areas and 35% in the rest of Scotland[44]. Finally, although systematic evidence is not available as to the relative importance of family owned businesses in different parts of Scotland, this type of business tends to be more dominant in particular sectors, including agriculture, tourism and construction which are important sectors in rural Scotland. Existing evidence about the role of family businesses suggests that these enterprises make an important contribution to local economic, social and community development[45].

The following two 'blue boxes' illustrate the contribution that rural businesses make to the wider communities in which they are located. In one example, a family-owned farm has diversified to generate additional local employment and a range of other benefits for groups within the local population, while in the other example, rural businesses are shown to be motivated to join local business associations as a means of supporting (or opposing) developments in the local community.

In Focus: Working with communities

Wilma Finlay, Cream o' Galloway Family Business Owner (http://www.creamogalloway.co.uk/)

Cream o' Galloway was founded by David and Wilma Finlay in 1994 with the vision of creating and retaining employment within a rural area in an ethical and environmentally sustainable way. In addition to creating jobs opportunities for local people, environmental considerations are central to daily activities of Cream o' Galloway. The company inspires its customers to become environmentally aware through volunteering opportunities, events and activities that encourage people to engage positively with environmental issues and to be aware of their environmental impact.

Diversification of the farm into the manufacture of ice cream and an environmentally aware visitor attraction has generated 19 full time permanent and 35 seasonal jobs. 5 jobs in the farming business have been maintained. Without implementing the innovation and diversification that began 18 years ago, the farm would not be able to achieve its growth, nor the community benefits associated with it.

Cream o' Galloway's ice cream is sold throughout Scotland, in many independent shops and restaurants in England, and since 2009 organic ice cream has been exported to South Korea.

Cream o' Galloway's visitor centre now welcomes around 70,000 visitors per year. Visitors can not only enjoy a wide range of ice cream flavours, they can also let off steam in the extensive outdoor adventure playground or find out more about organic farming by joining a guided tour of the farm.

The Finlays have worked closely with the local community, especially in relation to the development of the community wind turbine which was erected on the Cream o' Galloway farm in 2008. The energy is used on site for ice cream manufacture. Cream o' Galloway pays the local community for the electricity used, with that community income then used for match funding for community projects.

The farm has environmental education programmes for local schools. It also works with community groups, membership organisations providing educational information, and opportunities for people to participate in voluntary environmental projects. In addition, the Finlays work closely with Wild Scotland and SNH and with the Local Authority biodiversity officer on a range of habitat improvements and visitor focussed activities.

Looking to the future, the Finlays are developing a new dairying system which will include an anaerobic digester which will reduce their farm's Greenhouse Gas emissions and also generate electricity and hot water to help them achieve their target of having 40% of their electricity generated from on-farm renewable sources.

The ways in which Scotland's rural land is managed by private sector businesses (including farms and estates) is critical to maintaining a high quality rural environment that people wish to visit, live and work in, as well as contributing to vital processes such as food production and flood mitigation. Businesses operating along the length of the food supply chain and also outside the primary sector, have a vital role to play in contributing to a high quality, clean rural environment and in terms of exploiting the assets of the rural

[42] Phillipson J, Bennett K, Lowe P, Raley M. Adaptive responses and asset strategies: the experience of rural micro-firms and Foot and Mouth Disease. *Journal of Rural Studies* 2004, 20(2), 227-243; Bennett K, Phillipson J, Lowe P, Ward N, Cattermole A, Donaldson A, Elliott C, Midgely J, Thompson N. *The Impact of the Foot and Mouth Crisis on Rural Firms: A Survey of Microbusinesses in the North East of England*. Newcastle upon Tyne: Centre for Rural Economy, Newcastle University, 2001. Centre for Rural Economy Research Report (Available online at: http://www.ncl.ac.uk/cre/publish/researchreports/); Oughton E, Wheelock J and Baines S (2003) Micro-businesses and social inclusion in rural households: a comparative analysis. *Sociologica Ruralis* 43 4:331-348; Wheelock J, Oughton E and Baines S (2003) Getting by with a little help from your family: towards a policy relevant model of the working household. *Feminist Economics* 9 (1):19-45.

[43] At the same time, other research has suggested that a higher proportion of SMEs in remote rural areas had applied for finance in the last three years (56% compared to 37% in accessible rural areas and 45% in the rest of Scotland). Remote rural businesses were the most likely to have applied for finance on credit cards and from a commercial loan or mortgage, and also the most likely to have had that application rejected (see http://www.scotland.gov.uk/Publications/2011/09/29133747/0 for more information).

[44] See: http://www.scotland.gov.uk/Publications/2011/09/29133747/0.

[45] For more information see: http://eresearch.qmu.ac.uk/592/1/592.pdf.

environment in a sustainable way. These assets include high quality food and drink, renewable energy and all aspects of Scotland's tourism offer, including outdoor recreation.

The Scottish Government is currently placing strong emphasis on renewable energy developments to meet its ambitious climate change targets[46]. The role of the private sector will be critical here in helping to harness Scotland's natural resources and in contributing to meeting low carbon objectives. These projects can bring substantial benefits, including income and job creation. The critical thing will be to ensure that at least some of these benefits remain in the local area for the community, for example, through upskilling local people to take advantage of new job opportunities, through securing local investment in infrastructure, services, the environment and cultural projects and through tackling social challenges such as fuel poverty[47]. There are other potentially less tangible outcomes too, such as increasing community confidence.

At the individual business level, rural enterprises can also contribute to achieving renewable energy generation targets and increasing energy efficiency through installing small-scale energy generators (such as solar panels or wind turbines). Rural businesses, and particularly those operating in the land-based sector, may be especially well placed to undertake such developments as they have access to space and land. There is a range of schemes available for businesses to access financial support for such initiatives, including the Renewable Heat Incentive. One issue to bear in mind, however, is the dominance of microbusinesses in rural Scotland and the difficulties that this sector in particular might face in meeting renewable energy and energy efficiency regulatory obligations, or even in joining accreditation schemes which require businesses to achieve particular standards (such as the Green Tourism Business Scheme). Often small and microbusinesses lack the resources, in terms of both time and money, and the technical knowledge and skills, to comply with regulation. Rural businesses may therefore rely on business support providers and other businesses up and down their supply chain (including through local and sectoral networks and associations), to access relevant information and assistance.

In Focus: Membership of business associations

Robert Newbery, Assistant Professor (Lecturer) in Entrepreneurship, Plymouth Business School, Plymouth University (robert.newbery@plymouth.ac.uk)

Local business associations are voluntary organisations composed of private business members who co-operate in order to generate private and collective benefits. These associations vary in composition from small Chambers of Trade, involving businesses operating across a range of different sectors, to sector-based organisations, for retail or tourism businesses, for example. Despite their varied sector make-up, these associations share broadly similar purposes that may be described as: 'acting collectively in the promotion of local businesses and the local area through networking and by providing a forum for information exchange.' Business associations can provide a 'conduit' through which public sector agencies, such as local authorities or enterprise companies, can engage with the private sector, and through which private sector businesses can ensure that their voice is heard.

Research carried out at Newcastle University investigated the characteristics of the businesses that join business associations (which tend to be located in small towns) and the reasons why they join. For example, do they join in order to generate benefits for their individual business or to generate collective benefits for all businesses located in the town?

The research found that business associations varied in size from the very small (around 15 members) to the large (around 150 members). They tend to have a concentration of membership from retail and tourism businesses, and from in-migrant business owners. Such businesses tend to be very small in size. Overall, the research found that the business members tended to represent the 'steady and stable businesses, that are vital to the future viability of their communities'.

Businesses reported that they gain individual 'performance benefits' from membership of business associations, such as an improved reputation and visibility to customers and making new customer contacts. However, other collective benefits for the local community were also regarded as important. These included increased social networking and the exchange of both local and general information. The collective action of the associations can lead to various local benefits, with members coming together in one town to support a new town centre supermarket, in another to fight off a supermarket. They often work with other local organisations to co-deliver community benefits, such as negotiated parking discounts for locals, or market place improvements.

Social enterprises as entrepreneurial social organisations

In 2007, the Scottish Executive noted that 'rural social enterprises are a particular feature in Scotland delivering important services in remote communities, with 35 per cent of Scottish social enterprises being rural based'[48]. More broadly, the Scottish Government acknowledges the increasing role played by social enterprises in the contemporary economy. Social enterprises are businesses with primarily social objectives and they often integrate social, economic and environmental activities[49]. They are often perceived as organisations that create a bridge between the private sector and the third sector because they combine an enterprising approach (i.e. they utilise business principles and techniques traditionally associated the private sector) with a social purpose that addresses sustainable solutions and achieves public goods (often associated with the third sector)[50].

The contribution of social enterprises has increasingly been recognised, in terms of creating jobs and providing services to those who are disadvantaged, and empowering communities, thus enhancing their resilience[51]. Social enterprises operate in a variety of sectors, including the environment, social care, information and communications technology, food, tourism, the arts and media, transport,

[46] For more information see Section 6.
[47] For more information see: Atterton, J., Woolvin, M. and Steinerowski, A. (2011) On- and off-shore renewables: who benefits? SAC Rural Policy Centre. Available from: http://www.sac.ac.uk/ruralpolicycentre/publs/changinenvironment/renewablesbenefits/.
[48] Social Enterprise Scotland (2012) http://www.socialenterprisescotland.org.uk/news/36.
[49] Developing Social Enterprise: An Investigation of Promoters and Barriers, Artur Steinerowski, 2011.
[50] For more information see Section 4.
[51] Steinerowski, A. and Steinerowska I. (2012) Can social enterprise contribute to creating sustainable rural communities? Using the lens of structuration theory to analyse the emergence of rural social enterprise. *Local Economy* 27(2) 167–182.

childcare, housing, fair trade and access to finance. There are also examples of social enterprises working collaboratively with the public and private sectors to deliver a wide range of benefits. A range of policy and funding support is available to social enterprises from the Scottish Government (e.g. Just Enterprise Fund and the Enterprise Growth Fund[52]), including through the Enterprising Third Sector Action Plan[53],[54]. However, no policies specifically address the issues relevant to rural social enterprises, despite the fact that a number of barriers have been identified in previous research[55].

The following blue box illustrates how one social enterprise, focusing on delivering environmental benefits, is bringing a range of benefits to rural Renfrewshire.

In Focus: Enhancing community resilience though social enterprise activities

Peter Livingstone (eadhaenterprises@hotmail.co.uk)

Eadha Enterprises (EE), whose mission relates to unlocking potential through planting trees to regenerate land and communities, is a recently established social enterprise based in Lochwinnoch, Renfrewshire. EE's vision is to see a thriving Scotland with a rich natural environment with degraded lands restored to vibrant native forests providing not only a home to a rich biodiversity but also providing a range of materials and services to local communities, who sustainably and equitably manage these resources for their present and future needs. EE aim develop and deliver a model for community regeneration based on the principles of ecological restoration and ecosystem services. In addition, EE are developing a hub nursery in Lochwinnoch and their ambition is to work with communities to establish a network of local nurseries to supply local projects. EE will seek to build the capacity of communities through training and education to manage land and forests.

EE's main focus is researching the use of Scottish native Aspen and other rare pioneer tree species which have the potential to remediate marginal/derelict/contaminated and acidified soils, stabilise slopes and river banks and generate a productive resource and new wildlife habitats. EE have built up a national collection of aspen clones from across Scotland to conserve genetic integrity. Aspen also exclusively supports some of the largest range of micro-flora and fauna of any tree species so the biodiversity value of aspen woodlands is very significant. EE are also investigating the feasibility of beaver reintroduction in Renfrewshire/ Ayrshire and how this can address local issues around water quality and watershed management.

In collaboration with Central Scotland Green Network, EE aim to deliver the Growing Green Energy Project. The project focuses on an area of East Ayrshire which has been subject to intensive and widespread opencast mining activity and is home to communities struggling to find new employment opportunities following the closure of the deep mines. EE are exploring the feasibility of developing a model of landscape scale ecological restoration which could act as a refuge for a unique assemblage of rare species of plant and animals and also to create a productive resource for local communities. EE are developing a short rotation forestry model for productive aspen woodlands as well as agro-forestry and other systems. The proposed model will be transferable and scalable across Scotland and its potential outcomes include:

- Improving the physical environment
- Reducing CO^2 emissions
- Creating educational opportunities
- Improving health by increasing access to the outdoors
- Reducing fuel poverty with local wood fuel
- Creating green jobs and volunteering opportunities
- Protecting Scottish natural heritage, including rare species and habitats
- Promoting rural skills for Biodiversity Management
- Providing recreational and tourism resources

3.4.4 Support to the rural private sector

Support is currently available to businesses across Scotland through Scottish Enterprise, Highlands and Islands Enterprise and Business Gateway. Scottish Enterprise and Highlands and Islands Enterprise (HIE) focus their support on areas where they can have the most economic impact, including investment and innovation by companies and sectors which have growth potential and are of national or

[52] For more information see: http://www.scotland.gov.uk/News/Releases/2011/07/18120453
[53] Scottish Executive (2007) *Better business. A strategy and action plan for social enterprise in Scotland*, Scottish Executive, Edinburgh: pp.11-12.
[54] Scottish Government (2011) *£7 million for third sector*, Scottish Government. Available from: http://www.scotland.gov.uk/News/Releases/2011/07/18120453.
[55] Steinerowski, A., Jack, S. and Farmer, J. (2008) 'Social entrepreneurship in a rural context: an over-ideological state?' *Journal of Rural Enterprise and Management*. Volume 4, No. 1, pp. 20-39.

regional significance. HIE's dual business and community support functions emphasise the strong inter-linking of these processes in rural areas (as discussed earlier in this Section 3).

Business Gateway (BG) provides support, including start-up training, business advice and details of financial support available to businesses across Scotland. The local delivery of BG is managed by local authorities as a means of ensuring better integration with other services that local authorities deliver which are of relevance to businesses[56]. While this generic Scotland-wide system of support makes no differentiation between rural and urban businesses, there are some specific support schemes which are designed for businesses in rural areas and small towns, such as the Rural Leadership Programme run by Scottish Enterprise[57]. Other schemes, such as the Small Business Bonus Scheme, are specifically tailored to small businesses.

Existing evidence suggests that rural businesses tend to use private sources of advice, such as accountants and solicitors, more frequently than public sector sources[58]. There are a variety of reasons for this, including a lack of awareness amongst rural businesses about the sources of advice/support that are available to them, distance from the available sources, a perception amongst many rural business owners that the public sector advice/support is not appropriate for their needs, and a strong desire for independence amongst rural business owners. The dominance of microbusinesses in rural areas, businesses operating in sectors which are less likely to access support (e.g. service sector businesses) and the importance of lifestyle businesses which are not high-growth, may also explain the rural-urban differences.

Rural businesses may also require specific kinds of support to overcome some of the constraints that they face, such as accessing international markets and lobbying for improvements in communications. The importance of improving broadband connections for all (including commercial organisations) by 2020 has been recognised by the Scottish Government through its Digital Strategy and Digital Ambition for Scotland[59]. The Government acknowledges that fast and effective broadband is not only a key economic driver that enables rural businesses to function effectively (helping competitiveness in the UK and global markets) but also it contributes to individual, community and social wellbeing (e.g. thorough tele-health in remote areas, public transport service information, educational opportunities for young people, working from home, social and business networking)[60],[61].

3.5 Conclusion

The private sector is the largest sector in terms of employment in rural Scotland and it is growing in size. It will be important to monitor the extent to which the private sector continues to grow in future as the public sector contracts and those moving out seek private sector employment or to set up their own business.

This section has demonstrated how the private sector in rural Scotland differs from the rest of Scotland, for example, in terms of the continued importance of land-based activities, the dominance of part-time and self-employment, home working and multiple job holding, and the particular importance of small and microbusinesses, which tend to have reasonably good survivability rates. A strong private sector brings a range of economic benefits for rural communities, including new job and business creation and linking rural Scotland into markets for Scottish products that may extend nationally and globally. However, this section has demonstrated how the role of the private sector extends beyond its economic impact. Evidence suggests that the rural private sector plays an influential role in the social and environmental resilience of rural Scotland, due to the strong inter-connecting of rural businesses, households and communities, the importance of land-based activities in maintaining and enhancing the high quality landscape and environment, and the role of the private sector in encouraging in-migration (and reducing out-migration) and boosting demand for public and private sector services. Building on the evidence presented in this section, a number of points can be made in conclusion.

First, through its Purpose, the Scottish Government is committed to increasing Scotland's sustainable economic growth and to supporting private sector businesses to grow. To do this effectively across both urban and rural Scotland, however, requires a better understanding and acknowledgement of the role and contribution of the rural private sector. Although businesses tend to be small or to operate in different sectors in rural Scotland, evidence suggests that Scotland's rural areas have a higher business density than the rest of Scotland and that business survivability rates are better. Thus rural Scotland has an important role to play in contributing to the wider regional and national economy.

Second, the section has demonstrated the different ways in which the private sector contributes to the economic, social and environmental resilience of rural Scotland. However, these broad contributions are not well recognised through traditional measures such as economic growth, productivity, gross value added and competitiveness, or targets to raise the number of businesses, all of

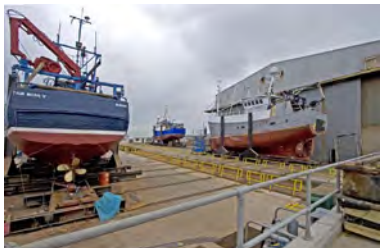
[56] http://www.scotland.gov.uk/About/scotPerforms/indicator/businesses for more information.
[57] http://www.scottish-enterprise.presscentre.com/content/detail.aspx?ReleaseID=857&NewsAreaId=2
[58] See: Agirova and Michaelis, 2003; Atterton and Affleck 2010; Keeble et al 1992.
[59] www.scotland.gov.uk/Publications and www.scotland.gov.uk/Topics/ArtsCultureSport/arts/DigitalAmbition/DigitalAmbitionScotland.
[60] Our Rural Future, The Scottish Government's response to the Speak Up for Rural Scotland consultation, 2011.
[61] For more information see Section 5 of this report.

which form key indicators in the Scottish Government's National Performance Framework and 2011 Economic Strategy. New techniques and measures are required to better understand the contribution of the private sector to maintaining and increasing rural population levels, maintaining a high quality environment or to supporting local service provision, for example. Moreover, the particular characteristics of rural businesses need to be recognised by policy-makers, and policy tailored accordingly. For example, many rural business owners are not motivated by profit generation and do not wish to grow and take on more employees but they may be critical in providing a small number of jobs in a local area and in maintaining a basic service that otherwise might be unavailable or only available some distance away.

Third, rural policy and funding in Scotland (including through the SRDP), has tended to focus primarily on the land-based sectors. While these sectors remain important in rural Scotland, and particularly in remote rural Scotland, businesses located in rural areas are operating in an increasingly wide range of sectors, such as research or web and graphic design. These developments are being enabled by improvements in information communications technology and the availability of new business units, in some rural areas at least. As people continue to move into many parts of rural Scotland and those moving out of the public sector seek new employment opportunities, it is important that policy-makers recognise and support the breadth of economic activity that exists in rural Scotland.

Fourth, rural businesses tend not to access public sector business support and this may be for a variety of reasons, including their size and sectoral make-up, a lack of awareness of the support available, or a perception that the support is not appropriate to their business. Work therefore needs to be done by public sector support providers to ensure that all rural businesses are fully aware of and can easily engage with support provision. This again may require a tailoring of the service on offer so that all businesses, including micro and small enterprises, businesses operating in both traditional and new sectors and 'lifestyle' or non-profit-oriented businesses – not just larger, high growth businesses – can access it. Support providers may wish to consider raising their profile in rural locations, through having a more visible presence in Scotland's towns or providing a mobile service to more remote locations.

Finally, rural businesses are likely to face particular challenges relating to their location which may restrict their ability to innovate and grow. These include distance from markets, planning restrictions, broadband limitations, difficulties recruiting skilled staff, and a lack of local business support provision. Support for the private sector should be seen as one part of an integrated, place-based policy for rural areas, which also tackles: restrictions in the planning system that lead to a shortage of housing and of premises for start-up and expanding businesses; transport infrastructure and provision to ensure that it enables rural residents to access the employment and training options available to them; local education and training provision to ensure that it is tailored to the skills gaps in the local area; and broadband provision to ensure that it enables rural businesses to fully participate in today's global economy.



Such a place-based approach[62] requires cross-sectoral working, with different levels of government working together and collaboration between the public, private and third sectors. It also requires Government at all levels to recognise the varied but substantial contributions that rural economies currently make to Scotland as a whole[63], and the ways in which national policies may need to be tailored to best support rural businesses and thus to enhance their contribution to the economic, social and environmental resilience of rural Scotland.

[62] As advocated by the OECD in its New Rural Paradigm for example. See OECD (2006) The New Rural Paradigm, OECD (Paris).
[63] Defra's recent Rural Economy Growth Review in England acknowledges the contribution made by private sector businesses to the national economy and puts in place a range of measures to support rural businesses, including six pilot Growth Networks, £25 million to support rural tourism businesses, expansion of the food and drink sector, delivering green growth and reducing regulation on farms. More information on the Rural Economy Growth Review can be found at: http://www.defra.gov.uk/rural/economy/.

4: The third sector and civil society in rural Scotland: present and future?

Mike Woolvin and Sarah Skerratt[1]

Key points

1. There are a greater number of charities per head based in rural areas of Scotland compared to more urban areas.
2. Charities located in rural Scotland may be particularly likely to serve their local area and population.
3. Rural charities take diverse forms including development trusts, social enterprises and community land trusts. There appears a particularly strong emphasis on asset ownership and place-based civil society activity. Furthermore, by focussing on only those third sector organisations that are registered charities, we are overlooking a great deal of less formal activity.
4. Those in rural areas are significantly more likely to report having volunteered formally.
5. However more needs to be known about the tasks volunteers perform in rural areas – in particular whether they are 'additional' or 'substitutional' - to ensure that such activity is sustainable.
6. Operating in rural areas appears to present particular challenges and opportunities for the third sector.
7. A geographically sensitive approach to third sector and wider civil society governance appears justified in order to most effectively engage with and support this activity where appropriate.

4.1 Introduction

In this section, we identify the ways in which the third sector and civil society contribute to the ongoing resilience of Scotland's rural communities. Against the backdrop of increasing policy engagement with the sector, we: (i) present what the research currently tells us regarding its geographical distribution and function; (ii) offer examples of the contributions/opportunities of the third sector and civil society in more rural areas, as well as the challenges faced in this; (iii) explore the character of civil society more generally in rural Scotland; and (iv) conclude with the implications of these findings for research, policy and practice.

'Civil society' has been defined as 'the arena, outside of the family, the state and the market, which is created by individual and collective actions, organisations and institutions to advance shared interests.' As such it can include formal voluntary action, informal voluntary action, participatory governance, active citizenship, and the organisations through which these often occur. The third sector can therefore be understood as a component of 'organised civil society'.[2] The definition of 'third sector' varies significantly. The Scottish Government define the third sector as comprising social enterprises, voluntary organisations, cooperatives and mutuals.[3] The Scottish Council for Voluntary Organisations (SCVO) recognise that the language used about the third sector can be confusing, with organisations in the third sector variously referred to as charities, non-profit organisations (NPOs), non-governmental organisations (NGOs), trusts, voluntary organisations, social economy organisations, community groups and civic groups.[4] It has been estimated that there are 45 000 voluntary organisations in Scotland,[5] with 23 500 of these registered charities.[6] There is, therefore, a great deal of third sector activity which might be overlooked by focusing purely on the most formal organisations.[7] Here, we examine data regarding registered charities and reflect on the nature of the third sector and civil society more generally in rural Scotland.

4.2 The third sector and civil society in rural Scotland: policy and funding context

4.2.1 Wider Scottish context

The relationship between the state and the third sector is not new. However, across the UK, the potential contributions of the third sector and civil society have received increasing attention.[8] Post-devolution, the then Scottish Executive set out a 'vision for the voluntary sector' in 2005 which highlighted four areas in particular which would be supported: 1) the third sector as a service delivery partner; 2) the contribution of the third sector to building communities; 3) the role of the third sector in advocacy and developing policy thinking and 4) as an agent of change.[9]

[1] The authors would also like to thank Michael Keller for his work in undertaking analysis and mapping of the OSCR data.

[2] Civicus and UNV (2011) *Broadening civic space through voluntary action: Lessons learned from 2011*. http://www.unv.org/fileadmin/img/unv/2011%20volunteerism%20publication.pdf See also Brodie at al. (2011) *Pathways through participation: what creates and sustains active citizenship?* London: NCVO; IVR; Involve. http://pathwaysthroughparticipation.org.uk/wp-content/uploads/2011/09/Pathways-Through-Participation-final-report_Final_20110913.pdf

[3] Scottish Government (2011) *Third Sector*. http://www.scotland.gov.uk/Topics/People/15300

[4] SCVO (2009) *Get to know Scotland's Third Sector*. http://www.scvo.org.uk/information/about-the-sector/get-to-know-scotlands-third-sector-july-2009/

[5] SCVO (2010) *Scottish Voluntary Sector Statistics 2010*. Edinburgh: SCVO. http://www.scvo.org.uk/about-the-sector/sector-stats/

[6] OCSR (2012) *Scottish Charities 2011*. Dundee: OSCR. http://www.oscr.org.uk/media/294663/2012-02-02_scottish_charities_2011_published.pdf

[7] Hall, C., Skerratt, S. (2010) What is the future for rural Scotland's infrastructure and access to services? In Skerrat, S., Hall, C., Lamprinopoulou, C. McCracken, D., Midgeley, A., Price, M., Renwick, A., Revoredo, C., Thomson, S., Williams, F. and Wreford, A. (2010), *Rural Scotland in Focus 2010*. Pp. 31 – 42. Edinburgh: Rural Policy Centre, SAC. http://www.sac.ac.uk/mainrep/pdfs/rsif2010.pdf

[8] Elsewhere in the UK this has been most recently equated to 'Big Society', however it is important to recognise that this discourse and associated governance has not generally been employed in Scotland.

[9] Scottish Executive (2005) *A vision for the voluntary sector: the next stage in our partnership*. Edinburgh: Scottish Executive. http://www.scotland.gov.uk/Publications/2005/12/12103306/33070

The previous Scottish Government Economic Strategy clearly referred to the role of the third sector in working 'collaboratively' with the academic, public and private sectors in contributing to its Strategic Objectives.[10] The most recent Economic Strategy builds on this, and as part of the key actions proposed against the Strategic Priority of 'equity', aims to 'support the development of an enterprising third sector in Scotland'[11]. Therefore there appears a movement towards a more market oriented, service provision role. The Enterprising Third Sector Action Plan aims to support the third sector to:

- Operate professionally, identifying markets or opportunities – for many organisations this will involve developing products and then competing for, and winning, contracts;
- Demonstrate the unique contribution that the third sector provides;
- Develop better third sector organisations contributing to increased sustainable economic growth and a more successful country'.[12]

Support has primarily been made available through the Third Sector Enterprise Fund and more recently the Scottish Investment Fund (aiming to "build capacity, capability and financial sustainability in the Third Sector to help it fulfil its potential and contribute to the overall national outcomes of the Scottish Government);" Social Entrepreneurs Fund (to provide financial and business support for social enterprises);[13] and Enterprise Growth Fund. In addition, the Third Sector Resilience Fund awarded funds between 2009 – 2010, supporting third sector organisations in coping with increased service demand and challenging economic environments.[14] There have also been sector-specific initiatives which seek to involve the third sector to a greater degree including the 'Reshaping Care for Older People' initiative and the associated 'Change Fund' which seeks to shift the care of older people within Local Authorities toward anticipatory care and preventative spend, areas in which the third sector has been traditionally strong.[15]

This growing profile for the third sector must also be understood in the context of the current socio-economic and political climate. The 2011 Scottish Spending Review recognised the significant efficiency budgeting required in the face of the challenging economic context. It highlighted the role of the third sector in: service delivery (particularly preventative services); accessing more hard to reach groups; and signified ongoing support for a socially enterprising model of third sector activity.[16] This is echoed in the Report of the Christie Commission on the Future Delivery of Public Services, where services are to maximise 'scarce resources by utilising all available resources from the public, private and third sectors, individuals, groups and communities' to provide services that are 'delivered in partnership, involving local communities, their democratic representatives, and the third sector'.[17]

With regard to infrastructure, Local Authorities (LAs) now have a far greater degree of freedom in the allocation of their budgets as part of the Concordat with the Scottish Government.[18] As part of the Single Outcome Agreements that this entailed, the place of Community Planning Partnerships in the design and delivery of services in Local Authorities has become more important. Third Sector Interfaces (TSIs) aim to bring volunteering, the third sector and Community Planning Partnerships together within each Local Authority. Their aim is to provide 'support to voluntary organisations operating in the area, both local and those national organisations that deliver services at the local level; support to and promotion of volunteering; support and development of social enterprise; [and a] connection between the CPP and the third sector'.[19]

An agenda of community empowerment and engagement in Scotland is also growing in strength. The recently updated National Performance Framework of the Scottish Government retains the strategic objective that 'we have strong, resilient and supportive communities where people take responsibility for their own actions and how they affect others'.[20] Participation in civil society has been the subject of a number policy documents. These include the Scottish Executive Volunteering Strategy 2004 – 2009 which linked the support of volunteering to tackling poverty and disadvantage, supporting community activity and building respect for others, and also to engaging young people in particular. It aimed to 'embed a robust culture of volunteering in Scotland'.[21]

[10] Scottish Government (2007) *The Economic Strategy*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/202993/0054092.pdf
[11] The Scottish Government (2011) *The Economic Strategy*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/357756/0120893.pdf
[12] Scottish Government (2008) *Enterprising Third Sector Action Plan*. Edinburgh: Scottish Government. http://scotland.gov.uk/Resource/Doc/228582/0061861.pdf
[13] Scottish Government (2008) *Social Entrepreneurs Fund Award Strategy*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Topics/People/15300/funding/Fund/AwardsStrategy
[14] Scottish Government (2008) *Third Sector Resilience Fund Strategy*. Edinburgh: Scottish Government. http://scotland.gov.uk/Topics/People/15300/funding/ResilienceFundStrategy1/ResilienceFundStrategy
[15] Scottish Government (2011) *Reshaping care for older people: Change Fund guidance 2012 – 2013*. http://www.scotland.gov.uk/Topics/Health/care/reshaping/changefund
[16] Scottish Government (2011) *Scottish Spending Review 2011 and draft budget 2012 – 2013*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/359651/0121519.pdf
[17] Christie, C. (2011) *Commission on the future delivery of public services*. Edinburgh: Scottish Government. http://scotland.gov.uk/Resource/Doc/352649/0118638.pdf
[18] Scottish Government (2007) *Concordat between the Scottish Government and Local Government*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/923/0054147.pdf
[19] Scottish Government (2009) *The new third sector interfaces*. http://www.scotland.gov.uk/Resource/Doc/48453/0078760.pdf
[20] Scottish Government (2011) *National Performance Framework*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/0038/00387872.pdf
[21] Scottish Executive (2004) Volunteering Strategy. Edinburgh: Scottish Executive. http://www.scotland.gov.uk/Resource/Doc/25954/0025523.pdf

This has not, subsequently, been renewed. However, the Scottish Community Empowerment Action Plan states that:

> 'the confidence and resilience that grows when people work together in their communities is never more important than in challenging economic times and when facing major social problems. This means that community empowerment – the ability of people to do things for themselves – forms a key plank of the Scottish Government's approach to delivering a more successful Nation'

This working together is characterised by an emphasis on 'community action' which 'is about all of us recognising that communities doing things for themselves can sometimes be the best way of delivering change'. The key drivers of this are seen as 'locally owned, community led organisations' which often act as 'anchors' for the process of empowerment. These organisations 'may be the local housing association, church group, community association, development trust, community council or any combination of these'.[22] [23]

4.2.2 Rural Scotland

'Speak up for Rural Scotland', the 2010 report of the Scottish Rural Development Council, saw:

> 'a need to protect the quality of services, particularly in the face of reduced government spending. To this end, there should be greater collaboration between public, private and the Third Sector in the delivery of services – in a way that avoids a silo mentality and encourages an innovative approach'.[24]

'Our Rural Future', the response of the Scottish Government, made limited reference to rural-specific measures to address these calls. It did however set out a vision for rural Scotland which, amongst other points, envisioned that:

- Best use is made of all resources (people, land, seas, rivers and wildlife)
- Confident and diverse rural communities take control of local assets and provide local services to generate income and employment.
- Services of the highest possible quality and with the greatest possible choice are accessible to the whole community.[25]

Recent work has mapped the 'community capitals' approach onto the actions identified in Our Rural Future, and the commitments of the 2011 SNP Manifesto.[26] The community capitals approach identifies seven capitals (financial, built, social, human, natural, cultural and political) to allow for the identification and categorisation of assets which communities hold and has been employed in a rural community development context.[27] The report finds that most actions and commitments relate to 'financial' capitals and the least to 'cultural' capitals.

With regards to funding, the LEADER programme is aimed at supporting 'local projects with a wide community benefit that show an element of originality or experimentation where possible, and complement other activities within the local development strategy'. Delivered through twenty Local Action Groups across Scotland, it is part of the Scotland Rural Development Programme (SRDP), with a six year budget of just under £60millon.[28]

Furthermore, the Land Reform (Scotland) Act, passed in 2003, included statutory access rights over most land for 'everyone' (Part 1); the 'community right to buy' (Part 2) and 'crofting community right to buy' (Part 3) eligible land, salmon fishings and mineral rights and other assets such as buildings. This 'granted rural communities the right of first refusal on the sale of estates, and granted crofting communities the right to buy their croftlands on a collective basis, even over the objections of landowners'.[29] This has been supported by the Scottish Land Fund (2001 – 2006), the Growing Community Assets Fund (administered by the Big Lottery Fund between 2006 and 2010) and the Growing Community Assets 2 Fund (2010 onwards).[30] [31].Following SNP commitments to reinstate the Scottish Land Fund,[32] this has also recently been launched with a budget of £6 million over the next three financial years, also to be administered via Big Lottery and Highlands and Islands Enterprise.[33] Such actions have supported a significant amount of civil society activity in rural Scotland.

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[22] Scottish Government (2009) *Scottish Community Empowerment Action Plan*. Edinburgh: Scottish Government. http://scotland.gov.uk/Resource/Doc/264771/0079288.pdf

[23] Following the Scottish Community Empowerment Action Plan, the Scottish Community Empowerment and Renewal Bill – a commitment made in the 2011 SNP manifesto – is currently in development.

[24] Scottish Government (2010) *Speak up for Rural Scotland*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/319168/0102002.pdf

[25] Scottish Government (2011) *Our rural Future: The Scottish Government's response to the Speak up for Rural Scotland consultation*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/344246/0114504.pdf

[26] Hallam, A. (2012) *Scottish Government investment in rural community development: a community capitals approach*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/0038/00389818.pdf

[27] Flora, C and Flora J (with Fey, S) (2004) *Rural communities: legacy and change* (2nd ed.) Boulder CO: Westview Press; Carnegie UK Trust (2009) *A manifesto for rural communities: inspiring community innovation*. Dunfermline: Carnegie UK Trust. http://www.carnegieuktrust.org.uk/getattachment/90b073cc-ac64-4b10-82a7-75a18e092be8/A-Manifesto-for-Rural-Communities---Inspiring-Comm.aspx.

[28] See: Scottish Government (2011) LEADER – Links between activities developing the rural economy. http://www.scotland.gov.uk/Topics/farmingrural/SRDP/LEADER Skerratt, S. (2010) How are Scotland's rural communities taking ownership of their own future. In Skerrat, S., Hall, C., Lamprinopoulou, C. McCracken, D., Midgeley, A., Price, M., Renwick, A., Revoredo, C., Thomson, S., Williams, F. and Wreford, A. (2010), *Rural Scotland in Focus 2010*. Pp. 42 – 51. Edinburgh: Rural Policy Centre, Scottish Agricultural College. http://www.sac.ac.uk/mainrep/pdfs/rsif2010.pdf

[29] Skerratt, S. (2011) *Community Land Ownership and Community Resilience*. Rural Policy Centre Research Report. Edinburgh: SAC Rural Policy Centre. http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/communityownership/

[30] SQW Consulting (2009) *Evaluation of Growing Community Assets: First year baseline report*. http://www.biglotteryfund.org.uk/gca_yr1_030609.pdf

[31] It should be noted that neither of the Growing Community Assets funds are accessible only to rural communities.

[32] SNP (2011) *Scottish National Party: A Greener Manifesto*. Edinburgh: SNP. http://nationbuilder.s3.amazonaws.com/snp/pages/504/attachments/original/SNP_greens_manifesto.pdf?1304248865

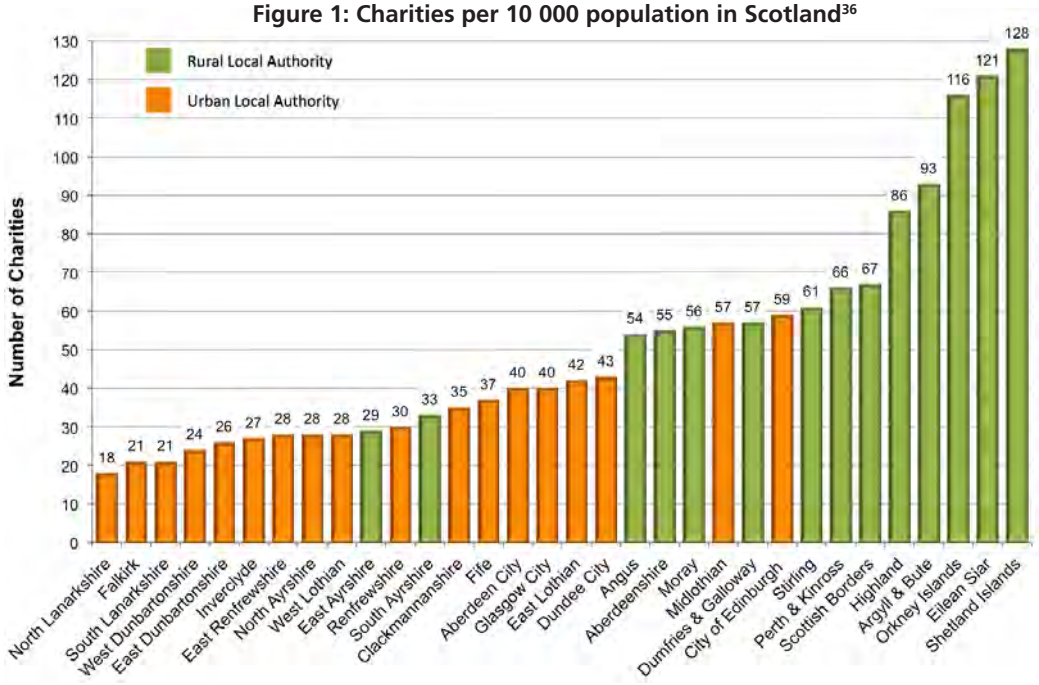
[33] Scottish Government (2012) *Rural Communities Land Boost*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/News/Releases/2012/02/landfund20022012

4.3 Mapping charities in rural Scotland

It has been suggested that – as a result of the particular social, spatial and geographical characteristics of rural areas – there may be a particularly distinct character and a particularly significant role for the third sector. Such characteristics include: dispersed populations, small settlement sizes, transport challenges, less comprehensive service provision, distinct demographic make-ups, potentially hidden deprivation and higher per head costs of service delivery.[34]

It has been noted that the number of charities per head of population tends to be higher in more rural Local Authorities of Scotland,[35] with the most recent analysis undertaken for the Office of the Scottish Charity Regulator (OSCR) confirming this (see Figure 1):

Figure 1: Charities per 10 000 population in Scotland[36]



However this only gives us a weak indication of the relationship between charities and rurality. LAs contain a diverse mix of both urban and rural populations and a more sensitive approach is needed. In addition, little is known about the character of these charities. Analysis undertaken of the OSCR data has enabled us to map the offices or trustee addresses of all charities located in Scotland.[37] [38]

The largest absolute number of charities tend to be located in more urban areas, mirroring the concentration of populations and also perhaps of headquarters. However, in a similar way to the earlier analysis presented, it is more meaningful to present the distribution of charities in Scotland relative to the population. Figure 2 overleaf illustrates the location of the office or trustee address of all those charities providing services or undertaking activities in Scotland,[39] illustrated at datazone level.[40] It is clear that more rural datazones have a higher number of charities per head than more urban datazones.[41]

[34]See for example:
Grieve, J. (2007) *Access all areas: meeting the needs of rural communities*. London: NCVO.
http://www.ncvo-vol.org.uk/uploadedFiles/NCVO/Policy/Rural/Rural_Policy_Publications/Access%20All%20Areas%20PDF.pdf
Defra (2003) Policy Paper, Rural Forum 7 (7) *Community Capacity Building and voluntary sector infrastructure in rural England*.
http://www.forestry.gov.uk/pdf/CapacityBuildingVoluntarySector.pdf/$FILE/CapacityBuildingVoluntarySector.pdf
Yates, H., Jochum, V. (2003) *It's who you know that counts: the role of the voluntary sector in the development of social capital in rural areas*. London: NCVO. http://www.ncvo-vol.org.uk/sites/default/files/UploadedFiles/NCVO/What_we_do/Research/Social_Capital/Rural%20Social%20Cap%20Report.pdf
SCVO (2011) *Rural communities need a thriving third sector*.
http://www.scvo.org.uk/wp-content/uploads/2011/04/The-Role-of-the-Third-Sector-in-Rural-Communities.pdf
[35]See for example:
OSCR (2008) *Scottish Charities 2008*. Dundee: OSCR. http://www.oscr.org.uk/media/1913/Scottish%20Charities%202008.pdf;
OSCR (2005) *Scottish Charities 2005*. Dundee: OSCR. http://www.oscr.org.uk/media/1909/OSCR%20Report.pdf;
SCVO (2003) *Challenges to the rural voluntary sector*. http://www.scvo.org.uk/information/about-the-sector/challenges-to-the-rural-voluntary-sector-2003/
[36] OSCR (2012) *op. cit*.
[37] For more information regarding the analysis undertaken to obtain these findings, see recent publications available via SAC's Rural Policy Centre: http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/
[38]For which postcodes could be linked to Scottish Government lookup tables (a total of 21 551 records).
[39] Rather than charities which make grants or donations to other charities or individuals (these three categories are employed as part of the OSCR annual return data). The total number of these charities is 17 049.
[40]Datazones generally contain between 500 and 1 000 people and so provide a more detailed, sensitive picture.
[41]Using log linear regression analysis

Figure 2: Location of charity offices in Scotland, carrying out activities or services per 1000 population.

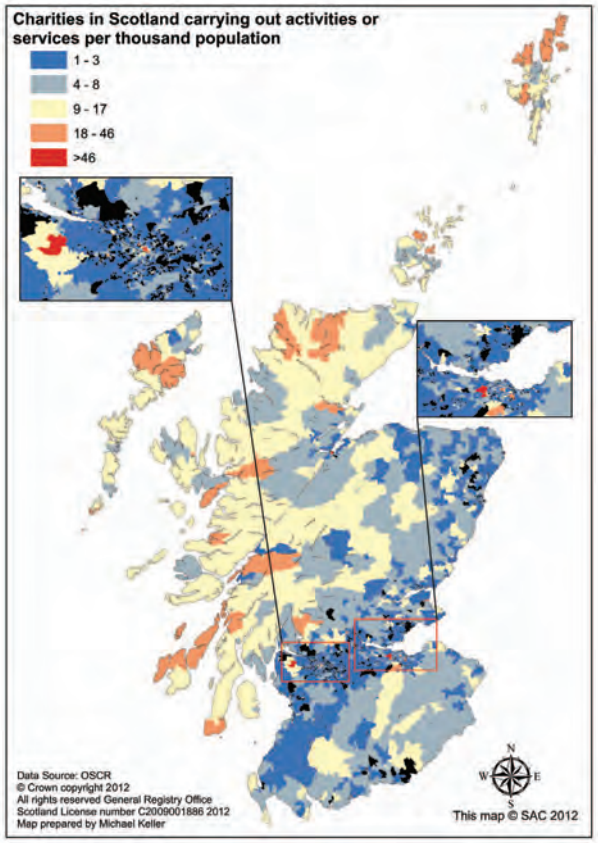
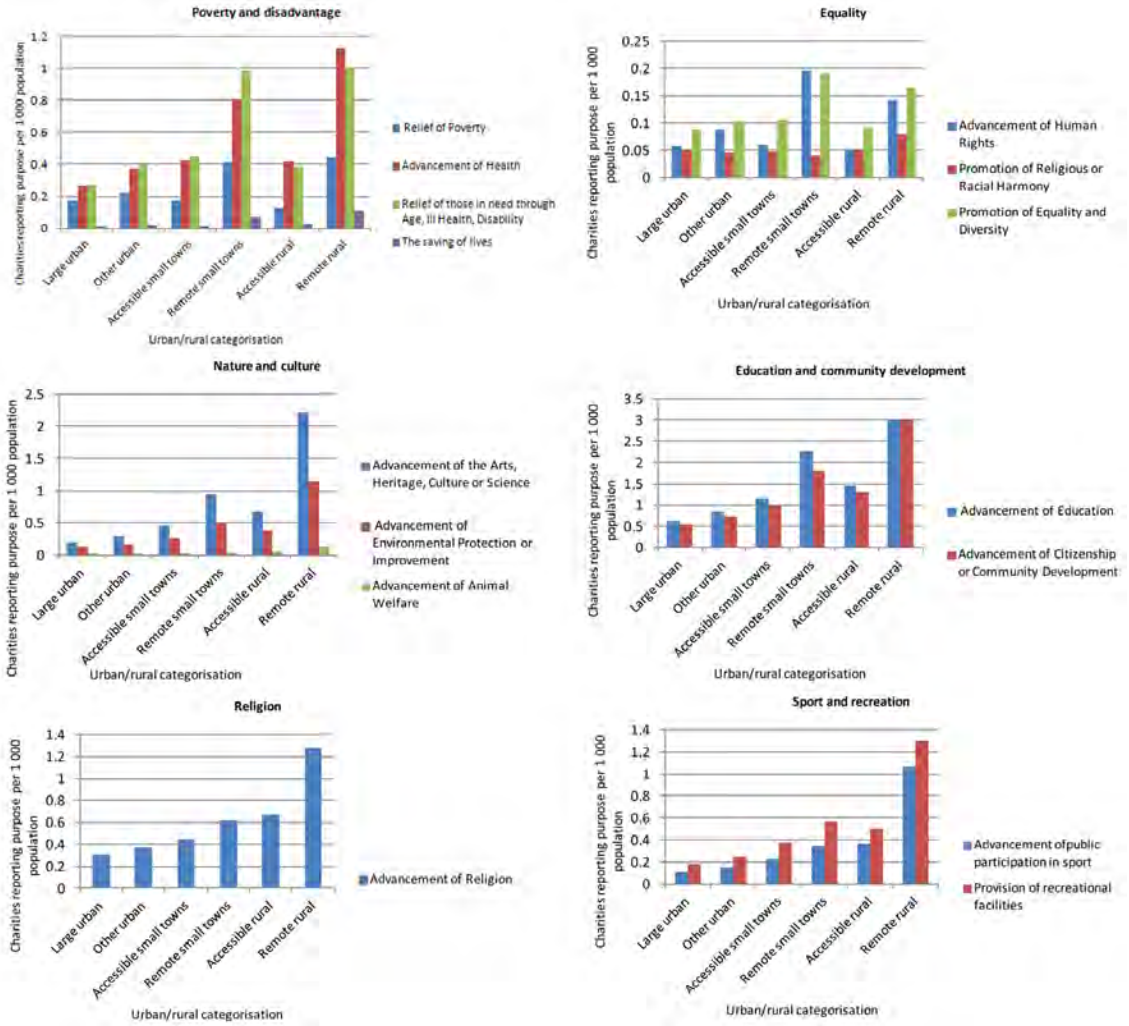


Figure 3 below explores the differing purposes of charities across the urban/rural categorisations. It takes all those charities working at a local level (within each Local Authority) in Scotland which could be matched to the urban/rural categorisation using their postcode.[42] Common purposes were grouped around six key themes: 'sport and recreation'; 'nature and culture'; 'equality'; 'health and disadvantage'; 'education and community development'; and 'religion'. It appears that not only are there a distinctly high number of charities per head in rural areas, but also that they may play a distinct role in rural (as opposed to urban) areas in delivering services and activities to and with their local populations.

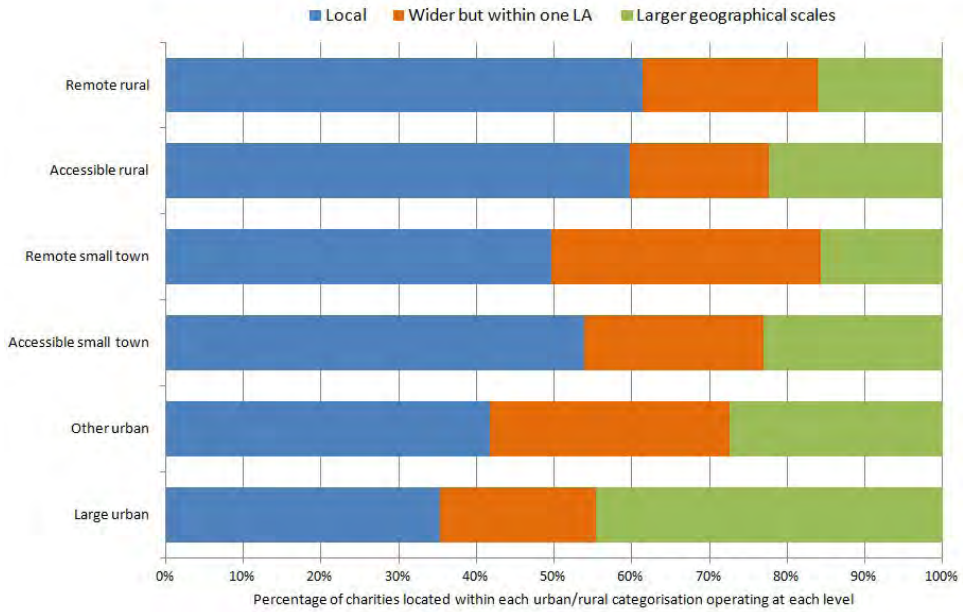
Figure 3: The reported purposes and number of charities per 1000 population undertaking activities or services 'locally' across the six-fold urban/rural categorisation. (NB: charities able to select more than one purpose).



[42] Owing to limitations in the data, it is not possible to confidently identify where all charities operate. Those that operate in more than one LA do not report which LAs these are. It should therefore be noted that whilst this analysis illustrates the purposes of 'local' charities across the six fold urban/rural classification, this picture excludes the contribution of larger charities which may operate in the area, but also in other areas. It is these charities that are more likely to be delivering larger services and holders of service delivery contracts with the Public Sector. The total number of charities included in Figure 3 is 11 067, and in Figure 4: 17 049.

An additional pattern to note is the way that the proportion of 'locally' oriented charities also varies with rurality. Figure 4 highlights the proportion of charities located within each urban/rural category providing services and activities at three scales: i) to their immediate area, ii) wider, but within the LA, and iii) at larger scales across or outwith Scotland. A particularly high proportion of the charities located in remote or accessible rural areas operate specifically in their immediate locale. The urban/rural categorisation with the highest proportion of all the charities located within it operating across the Local Authority is the 'remote small town' category, reinforcing the importance of such settlements in serving wider rural Scotland. It is the large and other urban areas that are more heavily characterised by charities which operate at larger scales. This is potentially a function of head office location, as well as the potential role for charities in rural areas providing services to their local populations given larger distances which may need to be travelled in order to access services. More needs to be done to explore the activities of charities to clarify this pattern.

Figure 4: Scale of operation of rural and urban charities carrying out services.



Similar findings have been presented in recent work exploring the role of volunteers involved with charities in Scotland. Charities in remote and accessible rural areas more frequently report that their main area of work is 'local community or neighbourhood group' than urban based charities. Drawing on a representative sample, charities in remote and also, a particularly large proportion of charities in rural areas report that the 'local community' is their main beneficiary group, compared with large urban areas.[43]

In Focus: The third sector in rural Scotland – contributions and challenges.

Alan Young, Aberdeenshire CVS Central and South.

Rural Aberdeenshire benefits from a rich and extensive pattern of community and voluntary activity, much of it so informal or operating at such a small scale as to place it 'below the radar' of most attempts to catalogue it.

So much is 'out there' for people to dip in to, that the Aberdeenshire Change Fund has given ongoing support to an innovative 'signposting' service to support older people in identifying and engaging with clubs, societies, interest groups and volunteering opportunities in or near the communities in which they live. Such engagement holds out the possibility of a more fulfilling community life, in which more people have an outlet for their interests and creativity, where their contributions are recognised and welcomed, and in which they will have more people 'looking out for them' as their needs and frailties increase with age.

As the major support and development agency for 'Third Sector' activity in the area, we are aware of the difficulties that many small, 'grass roots' organisations now face - for example, increasing regulatory requirements on the Management Committees of Village Halls, and the difficulties in persuading active group members to 'take a turn' on the organisation's Governing Body. But overall, this part of the sector appears to be in good health right across rural Aberdeenshire.

Far more attention needs to be paid to the future of Aberdeenshire's 'Third Sector SMEs' and 'Microenterprises' - typically based in small market towns, providing social care and support in their particular locality and employing paid staff to provide and coordinate their activities. Such organisations appear increasingly vulnerable over the next 2-3 years, as the local authority moves away from grant funding, putting the services these organisations have developed and delivered over the years out to competitive tender - often at a far larger geographical scale than these organisations have the will or the capacity to address.

'Third Sector' bodies are consistently held to possess 'local knowledge' and 'trust from the local community', enabling them to develop and deliver effective services, finely tailored to the specific needs of the areas they serve. But if these perceived strengths are to be realised in the kind of 'contract culture' that is now emerging, commissioners must use every opportunity that exists within current tendering and procurement regulations to maximise social and environmental added value from each contract offered. Current consultations on EU and National Procurement Policies and Directives also need to be grasped to give more tangible effect to the European Commission's stated ambition "to contribute to the creation of a favourable environment for the development of social business in Europe, and of the social economy at large"[1].

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[1] http://ec.europa.eu/internal_market/social_business/index_en.htm

[43] Keller et al. (2012) *Urban and rural variations in formal volunteering opportunities in Scotland*. Presentation given at 'Visualising Volunteers Research Workshop: Does place matter? Exploring drivers for volunteer participation'. 22/02/12. Volunteer Development Scotland, Stirling.

4.4 The diversity of third sector organisations in rural Scotland

There is a great diversity of activities undertaken by the third sector in rural Scotland. A recent in-depth review of the literature found a large number of case study examples regarding community energy projects, the provision of community owned and run services (including shops/post offices, gyms, transport, care homes), community land purchase and community woodlands, in addition to smaller scale rural community development projects delivered by organisations including community trusts, community interest companies, social enterprises, or charities. There was a strong emphasis on rural infrastructure. However, it was found to be challenging to robustly compare activities across urban and rural Scotland, in addition there appeared little data which can identify how larger scale service-providing charities might vary in their character between urban and rural areas.[44] The "Speak up for Rural Scotland" reported that Development Trusts and Social Enterprises can 'generate more community activity and income, and make our small towns and villages even better places to stay'. It also advocated community ownership or management of local assets as ways of providing community services through asset transfer, and suggested that social enterprises and development trusts might take on the provision of many more rural services. Therefore, here we briefly identify the contribution of Development Trusts, Social Enterprises, and Community Land Trusts.

4.4.1 Development Trusts in rural Scotland

Development Trusts are community organisations created to 'enable sustainable development in their area. They undertake a mixture of economic, environmental and social initiatives'.[45] They are owned and managed by the local community, and 'aim to achieve the sustainable regeneration of a community or address a range of economic, social, environmental and cultural issues within a community'. They also aim to 'reduce dependency on grant support by generating income through enterprise and the ownership of assets'.[46] Recent analysis identifies that 59% of DTAS members are located in accessible or remote rural areas, and a further 6% in remote small towns.[47] Therefore, absolute figures suggest that such activities are particularly characteristic of rural Scotland.

In Focus: Development Trusts and rural Scotland

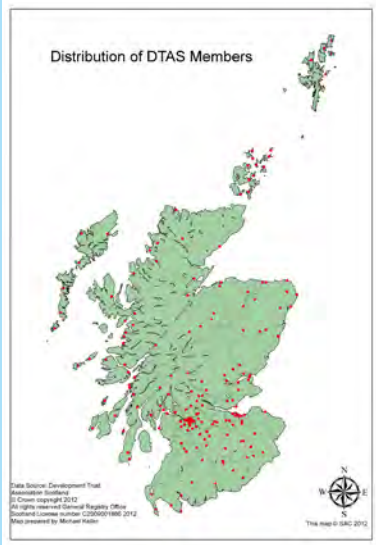
Ian Cooke, DTAS

DEVELOPMENT TRUSTS ASSOCIATION SCOTLAND
the community-led regeneration network

It seems certain that the historic and current challenges facing many rural communities will be further exacerbated as the full impact of the economic downturn and the significant reductions in public spending begins to bite. Faced with this prospect, more and more local communities will seek to seize the initiative, and organise themselves in a way which enables them to address local problems on their own terms. In doing so, many will consciously, or unconsciously, adopt the regeneration framework which the development trust approach offers.

This approach to building sustainable and resilient communities harnesses the energy, creativity and commitment of local people. Partnerships are developed with targeted partners for specific purposes. And the acquisition of assets and the development of enterprise activities are used to generate income, creating surpluses which can then be re-invested in the community. The flourishing of development trusts throughout rural Scotland and the growing interest in the development trust approach stands testimony to its success.

As the rural landscape continues to evolve and change, the development trust approach can provide sufficient flexibility to enable communities to address local challenges and, crucially, exploit local opportunities. Looking forward there will undoubtedly be greater opportunity for the kind of community ownership and community enterprise activity which has been successfully developed to date. Communities will be presented with further opportunities to acquire vital rural businesses and the future re-provisioning of public services will create new opportunities for aspiring and enterprising communities.



Web: www.dtascot.org.uk Email: info@dtascot.org.uk

4.4.2 Social enterprise in rural Scotland

Social enterprise, as we have seen, plays a central role in Scottish Government third sector policy and governance rhetoric. They are defined by the Scottish Government as 'businesses with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximise profit for shareholders or owners'.[48] As such - as noted in Section 3 of this report - they also exhibit some characteristics of the private sector.

[44]Woolvin, M (2012) *Mapping the third sector in rural Scotland: an initial review of the literature*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/0038/00386850.pdf
[45]DTAS (2011) *So you want to set up a development trust? The essential guide to getting it right*. DTAS: Edinburgh. http://www.dtascot.org.uk/sites/default/files/publications/so-you-want-to.pdf
[46]DTAS (nd) *What is a development trust?* DTAS: Edinburgh. http://www.dtascot.org.uk/content/what-is-a-development-trust
[47]Recent analysis undertaken by Michael Keller for SAC, using DTAS data.
[48]This definition is employed by UK and Scottish Governments. See for example: Coburn and Rijsdijk (2010) *Evaluating the success factors for establishing a thriving social enterprise in Scotland*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/332260/0108115.pdf

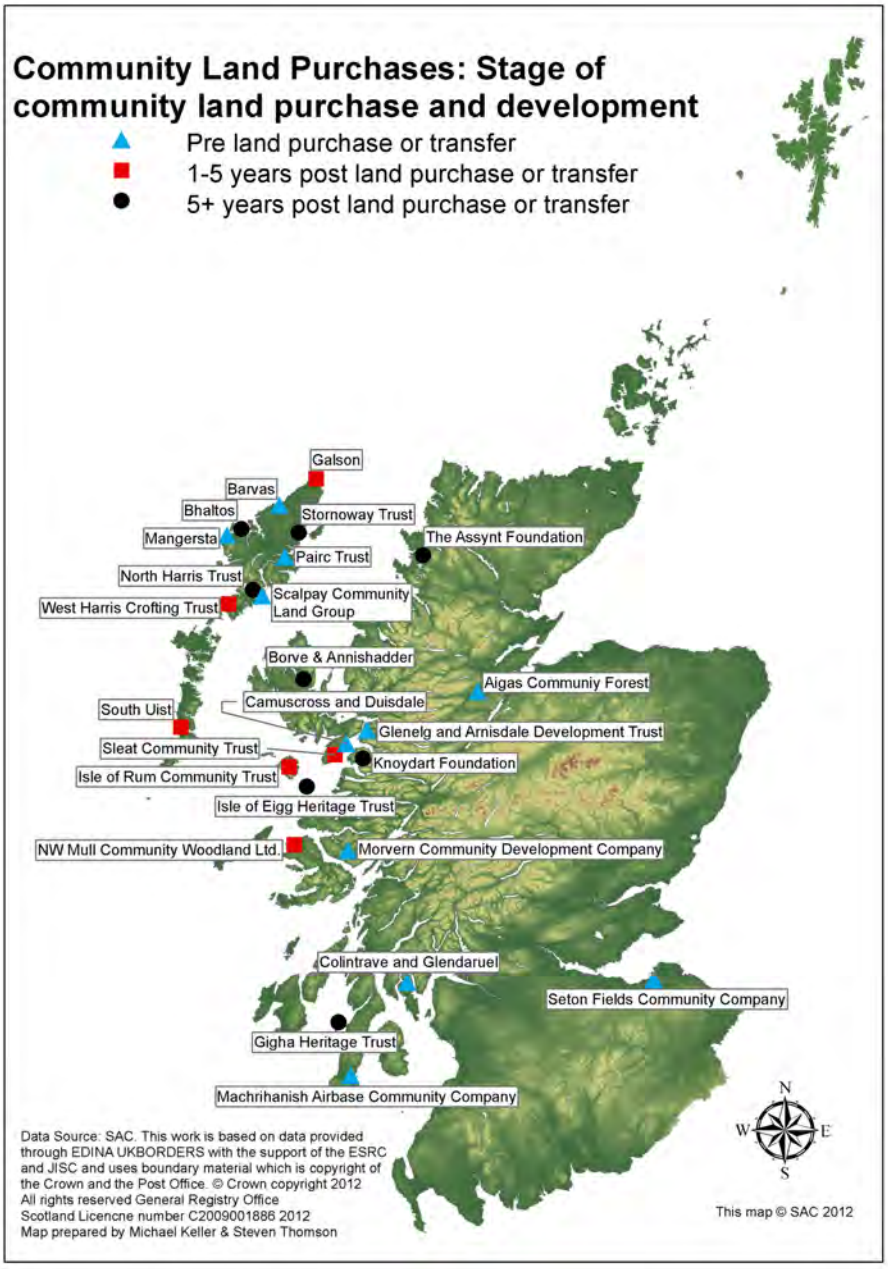
Recent work has explored the distribution of social enterprises across the UK, and finds that they are concentrated in areas of higher deprivation.[49] Little work has sought to identify their geographical distribution with regard to rurality, however it has been found that 35% of social enterprises in Scotland are 'rural based'.[50] Nonetheless, there are examples of social enterprise activities which have sought to address challenges in rural areas, taking an asset-based approach.

The previous Section provided a case study example of rural social enterprise. An additional example is the Older People for Older People project (O4O). This treated active older people as potential entrepreneurs, with 'life experience and wisdom to establish, lead and manage social enterprises to provide services for older people'. Focussing particularly on remote and rural areas of Scotland, it recognised the challenges of providing services for this population against a background of reduced public sector funding. In particular, it sought to test the promotion of coproduction and social enterprise with older people in such areas.[51]

4.4.3 Community Land Trusts in rural Scotland

As Figure 5 highlights, Community Land Trusts are a strongly rural-focussed form of third sector activity in Scotland. Community Land Trusts own and manage the land they have purchased from private landlords, public sector bodies, or government.

Figure 5: Community Land Scotland members: January 2012.[52]



Recent work in Scotland has found that 'communities buy the land they live on because they see land as the foundation on which all other developments sit', with this ownership leading to the development of 'private enterprise, investment due to security of tenure, affordable housing for rent and purchase, renewable energy schemes, infrastructure development, as well as ongoing estate management...the emphasis is on long-term stewardship, investment and growth'. It is also found that the Trusts are primarily volunteer run[53].

[49] Social Enterprise UK (2011) Fightback Britain: *A report on the State of Social Enterprise Survey 2011*. London: Social Enterprise UK. http://www.socialenterprise.org.uk/uploads/files/2011/11/fightback_britain1.pdf

[50] Social Enterprise Scotland (2012) *Full text of Jim Mather's speech at 32S*. http://www.socialenterprisescotland.org.uk/news/36

[51] Muñoz, S., Farmer, J., Stephen, K. (nd). *Achieving social enterprise development in rural communities. O4O Policy Briefing No.2*. O4O; NPP; EU. http://www.o4os.eu/userfiles/file/_General_Documents/Policy%20Briefing%202.pdf

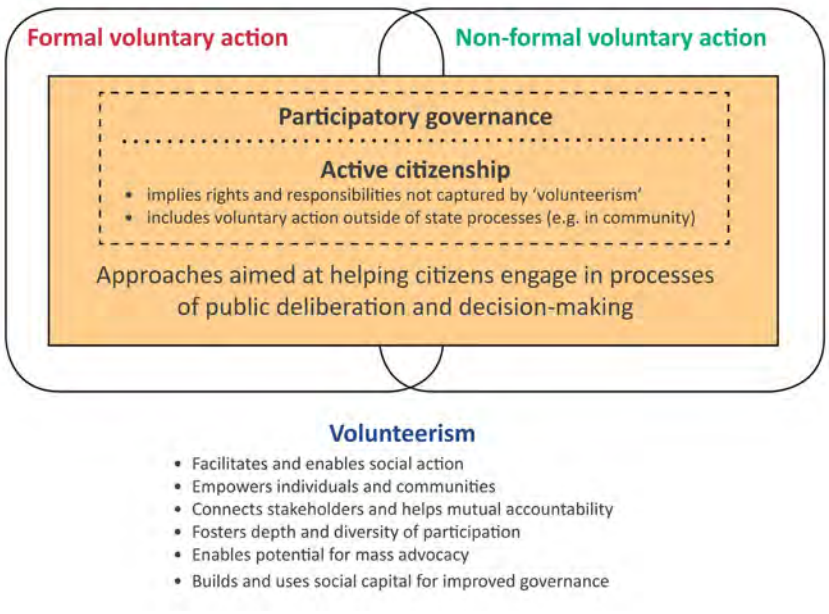
[52] See www.communitylandscotland.org.uk

[53] Skerratt, S. (2011) *op.cit.* See: http://www.hie.co.uk/support-for-communities/community-assets/community-map.html

4.5 The nature of participation in civil society in rural Scotland

Having reviewed examples of the nature of organisations composing the third sector in rural Scotland, we now explore the nature of participation itself. 'Participation' is a broad term, which has been used to cover a wide range of activities including membership of organisations, giving money, volunteering, time banking, ethical consumerism, political engagement, local governance, campaigning, and direct action and protest.[54] The interactions of several components of civil society participation have been summarised as below:

Figure 6: 'How participatory governance, active citizenship and volunteerism interact'.[55]



• **Formal voluntary action** can be understood in Scotland as 'the giving of time and energy through a third party, which can bring measurable benefits to the volunteer, individual beneficiaries, groups and organisations, communities, environment and society at large. It is a choice undertaken of one's own free will, and is not motivated primarily for financial gain or for a wage or salary'.[56]

• **Non-formal (or informal) voluntary action** is defined in Scotland as 'helping a friend or a neighbour in a self-managed way, e.g. helping them with some gardening or watching their home…'.[57]

• **Participatory governance** has been defined as 'empowering citizens to influence and share control in the processes of public [as opposed to private] decision-making that affect their lives'.[58]

• **Active citizenship** can be defined as 'approaches aimed at helping citizens engage in processes of public deliberation, decision-making and service delivery [which is also] used to describe citizen action outside of state processes, e.g. where people take initiatives within their communities'.[59]

4.5.1 Formal voluntary action in rural Scotland

Formal volunteering is particularly characteristic of the third sector, although can also take place elsewhere.[60] It has been found that 'growing the capacity of local people, agencies and professionals who support rural communities; building strong social networks founded on high levels of volunteering and skilled support' is one of the 'prerequisites for vibrant rural communities'.[61] Rates of formal volunteering in Scotland have been measured through the Scottish Household Survey since 1999. Throughout this time, it has been found that remote rural areas have the highest reported rate of formal volunteering.[62] The most recent data (2009 – 2010) states that 47% of those in remote rural Scotland 'gave their time to help as an organiser/volunteer in the past twelve months', compared to 37% in accessible rural Scotland, and 27% in the rest of Scotland.[63]

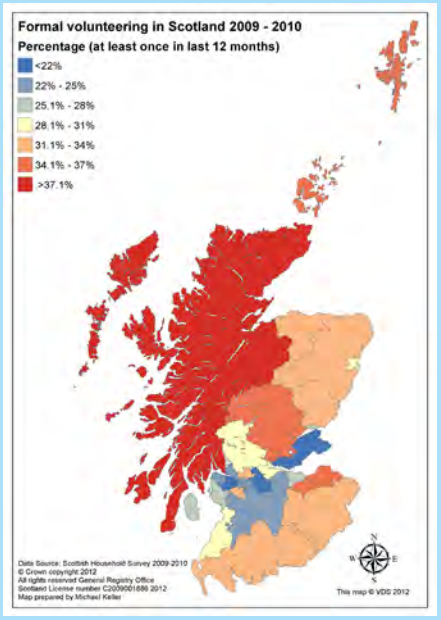
There is limited research that has aimed to explore in more depth the nature of formal volunteering in rural areas of Scotland relative to more urban areas. However, it has been suggested that such activity may be more 'broad' – across a larger number of organisations but with less time in each – compared to activity in urban areas which may be more 'deep' – across a smaller number of organisations but for a larger amount of time in each.[64]

[54] NCVO (2011) *Participation: Trends, facts and figures*. London: NCVO. http://www.ncvo-vol.org.uk/sites/default/files/participation_trends_facts_figures.pdf
[55] Civicus and UNV (2011) *op. cit. Broadening civic space through voluntary action: Lessons learned from 2011*. http://www.unv.org/fileadmin/img/unv/2011%20volunteerism%20publication.pdf
[56] Scottish Executive (2004) *op. cit. Volunteering Strategy 2004 – 2009*. Edinburgh: Scottish Executive. http://www.scotland.gov.uk/Resource/Doc/25954/0025523.pdf
[57] Volunteer Development Scotland (2004) *Research on volunteering in Scotland. Research Findings Scotland No. 4. January 2004*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/RFSNo4.pdf
[58] Malena, C (ed.), 2009. *Political Won't to Political Will: Building support for participatory governance*. Stirling, Virginia, USA, Kumarian Press cited in Civicus and UNV (2011) *op. cit*.
[59] Civicus and UNV (2011) *op. cit*.
[60] Volunteer Development Scotland (2005) *Annual Digest of Statistics on Volunteering in Scotland 2005*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Annual%20Digest%20of%20Statistics%202005.pdf
[61] Carnegie Trust UK (2007) *A charter for rural communities*. Dunfermline: Carnegie UK Trust. http://www.carnegieuktrust.org.uk/getattachment/a2d7553b-3457-4567-b51a-f01c5a2d8cd6/A-Charter-for-Rural-Communities.aspx see also Carnegie Trust UK (2009) *op. cit*.
[62] Hurley, N. et al. (2008) *Scottish Household Survey Analytical Topic Report: Volunteering*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/209828/0055479.pdf
[63] Scottish Government (2011) *Rural Scotland Key Facts 2011*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/359320/0121431.pdf
[64] Timbrell, H. (2006) *Scotland's volunteering landscape: the nature of volunteering*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/The%20Nature%20of%20Volunteering%20(RFSNo9).pdf

In Focus: Formal volunteering in rural Scotland.

Dr Alasdair Rutherford, University of Stirling
Dr Helen Harper, Volunteer Development Scotland

Recent shifts in government policy, both at the UK level and in Scotland, have led to greater funding scrutiny and a need to understand how communities, individuals and volunteers can participate in, shape and support sustainable public services. This policy shift towards a co-production agenda assumes that levels of volunteering and its distribution in all localities can meet this demand now and in the future. There is a need to understand the determinants of volunteering participation, and explain its geographical distribution. Analysis of the Scottish Household Survey (SHS) combined with local area statistics and other data sources drew out a number of issues relating to socio-economic and spatial variations in volunteering.



It appears that levels of formal volunteering (that is, volunteering through an organisation or group) are significantly higher in rural Scotland than urban areas and are highest in the most remote areas. This is the case even after controlling for the income and demographic differences, and is despite potentially greater costs in travel. There does not however seem to be an urban/rural difference in the number of hours spent volunteering, neither is there an urban/rural difference in the frequency of volunteering. This suggests that the significant difference between urban and rural areas lies in the decision to participate, rather than in the level of participation

Currently, data does not allow us to explore whether individuals in rural areas volunteer across a larger number of organisations. The motivations for this activity, and the ways in which it is understood by those involved with it, require further exploration, but analysis does suggest that a geographically sensitive approach to engaging volunteers may be helpful.

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It is also important to distinguish between formal voluntary activity which is 'substitutional' and 'additional'. Substitutional voluntary activity has been defined as 'no choice' volunteering which bridges gaps in service provision. It has been suggested that substitutional activity may be more characteristic of some rural communities and may be less positive and empowering compared to activity which is undertaken over and above those services which would otherwise have been provided by the state (additional).[65]

Formal volunteering is strongly linked to personal and wider societal benefits including a number of governmental priorities such as: 'development' (economic and sustainable); 'communities' (safer and stronger); 'social inclusion' (economic support and social support); 'quality of life' (contentment and satisfaction, mental and physical health) and 'lifelong learning' (skills development; achievements for education).[66] However if additional expectations of further voluntary involvement in rural communities (in which rates are already high) are to be sustainably met, it would appear important to explore in more detail what is being done by volunteers and why in rural areas.

4.5.2 Non formal voluntary action in rural Scotland

Rates of informal volunteering are almost universally found to be higher than those of more formal participation.[67] In Scotland levels are less comprehensively measured. Between 2003 and 2006 levels decreased from 81% to 74%,[68] however recent research suggests that levels of such activity are only slightly higher in rural compared to urban Scotland.[69] Given that informal participation appears prioritised over more formal[70] it would appear important to recognise the involvement of individuals in both types if a full picture of participation – and capacity for involvement - is to be understood.[71]

[65] Timbrell, H. (2007) *Volunteering and active citizenship in Scotland: exploring the complex relationship*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Volunteering%20and%20Active%20Citizenship.pdf

[66] Ellis Paine, A. et al. (2007) *Volunteering Works: Volunteering and Social Policy*. London: Volunteering England. http://www.ivr.org.uk/images/stories/Institute-of-Volunteering-Research/Migrated-Resources/Documents/V/Final_Volunteering_Works.pdf

[67] In England, for example, 39% of adults reported having formally volunteered at least once in the last year (2010 – 2011) compared to 55% reporting having informally volunteered. See: Department for Communities and Local Government (2011) *Citizenship Survey 2010 – 2011 (April 2010 – March 2011) England. Statistical Release 16*. London: DCLG. http://www.communities.gov.uk/documents/statistics/pdf/1992885.pdf

[68] See: Volunteer Development Scotland (2007) *Annual statistics on volunteering 2007* Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Annual%20Statistics%202007.pdf Volunteer Development Scotland (2006) *Annual digest of statistics on volunteering in Scotland 2006*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Annual%20Digest%20of%20Statistics%202006.pdf Volunteer Development Scotland (2005) *Annual digest of statistics on volunteering in Scotland 2005*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Annual%20Digest%20of%20Statistics%202006.pdf Volunteer Development Scotland (2004) *Annual digest of statistics on volunteering in Scotland 2004*. Stirling: Volunteer Development Scotland. http://www.vds.org.uk/Resources/Annual%20Digest%20of%20Statistics%202004.pdf

[69] TNS bmrb (2011) *Volunteering data tabulations prepared for Volunteer Development Scotland*. Stirling: VDS.

[70] Musick, M.A., Wilson. J. (2008) *Volunteers: A social profile*. Bloomington: Indiana University Press.

[71] Woolvin, M. (2011) *Volunteering below the radar? Informal volunteering in urban and rural Scotland*. Paper given at the NCVO/VSSN Researching the Voluntary Sector Conference, London, September 2011.

This call echoes an emerging body of work regarding 'below the radar' activity. Understood as 'small voluntary organisations, community groups, and more informal or semi-formal activities in the third sector'[72] this activity is often missed from conventional assessments of the civil society landscape. Very small-scale research in England has found that a common view amongst representatives of rural voluntary organisations was that 'most rural groups would be below the radar', although larger scale research is required to establish how far this may truly be the case.[73]

4.5.3 Participatory governance and active citizenship in rural Scotland

A particular – and recently re-emerging – opportunity for participatory governance and active citizenship in rural Scotland is that of a Rural Parliament. The SNP, in their most recent manifesto, committed to the establishment of a Rural Parliament in Scotland in order to 'allow rural communities to engage more effectively with government'.[74] This commitment was reaffirmed in the 2011 – 2012 Programme for Government.[75] A recent report reviewed the development of six Rural Parliaments in Europe and identified the implications for the establishment of such a governance structure in rural Scotland. It found that Rural Parliaments generally emerged from wider rural movements and were instigated by grassroots action. Nevertheless the government were important stakeholders and contributors to the event, to which individuals from rural communities, representatives of NGOs operating in rural areas, local and national level civil servants, politicians and decision-makers are invited. The Rural Parliaments generally took place every two years, and were hosted in a different rural region each meeting. Stated outputs from the Rural Parliaments included joint statement of actions, whilst outcomes included sharing good practice, increasing a sense of empowerment amongst rural inhabitants, and the opportunity to meet, establish relationships with, and increase the rural awareness of, local and national politicians and policy-makers.

It was noted that, in Scotland, there are both opportunities and challenges in establishing a Rural Parliament. There is no robust and collective 'rural movement' on which to build, however there is the legacy of a number of earlier initiatives. The absence of such an existing movement also means that deep thought must be given to the ways in which stakeholders are represented within a Rural Parliament, whilst the Rural Parliament must also appear to be impartial and unbiased.[76] With regard to participatory governance in rural Scotland, therefore, there appears a particularly significant opportunity for a step-change, which if it is to be successful will need to be carefully and inclusively taken forward by all stakeholders.

Many initiatives have sought to support participatory governance and active citizenship across Scotland. The Achieving Community Empowerment project is particularly notable in that it specifically works in a range of urban and rural communities:

In Focus: Achieving Community Empowerment in urban and rural Scotland

Fiona Garven and Stuart Hashagen, SCDC

In both rural and urban communities there are many groups or organisations that operate 'beneath the radar'. The Scottish Community Development Centre firmly believes that priority must be given to encouraging such groups to form, and to maximising their value.

ACE (Achieving Community Empowerment) is funded by BIG Lottery, and started work in 2009. The key role of ACE is to help groups assess the issues, problems and opportunities that they are concerned with. The time taken for good quality assessment is an excellent investment – it means there will be a clear understanding and insight into what needs to be done, why it should be done, and what the benefits will be. Assessment helps community organisations to keep on top of three critical questions:

- How strong and sustainable is our community organisation?
- How well do we understand the needs and issues we are working on?
- Who are the key influencers on these needs and issues and how should we work with them?

The aim is to help groups to be good at involving and mobilising people so they have strong support in the community; being assertive so they are clear what they want to achieve and focused in doing so, and learning – so they are on top of why they are doing what they do, and being as effective as possible.

The challenges and opportunities facing the rural community organisations who have approached ACE include wishing to expand their membership, to have a more significant role in their community, and seeking to establish a Community Trust. They seek an outside perspective to help them look objectively at themselves or to identify areas of risk that need to be addressed - they can feel isolated or vulnerable and seek ways to be more sustainable. In ACE and other programmes, SCDC has noted a high level of interest from rural communities and this may reflect their lack of access to support of this type. Conversely it may suggest that rural groups are better informed about sources of support and more skilled at accessing them.

Web: www.scdc.org.uk/what/achieving-community-empowerment and www.strongercommunities.org.uk
Email: fiona@scdc.org.uk or stuart@scdc.org.uk

[72] McCabe, A., Phillimore, J., Mayblin, L. (2010) *Third Sector Research Sector Working Paper 29: 'Below the radar' activities and organisations in the third sector: a summary review of the literature*. Birmingham: TSRC. http://www.tsrc.ac.uk/LinkClick.aspx?fileticket=80XsXl6tHkc%3D&tabid=500
[73] Phillimore, J., McCabe, A., with Soteri-Proctor, A., and Taylor, R. (2010) Third Sector Research Centre Working Paper 33. Understanding the distinctiveness of small scale, third sector activity: the role of local knowledge in shaping below the radar actions. Birmingham: TSRC. http://www.tsrc.ac.uk/LinkClick.aspx?fileticket=iBB6cFBtNYU%3d&tabid=678
[74] SNP (2011) *SNP Manifesto 2011*. Edinburgh: SNP. http://votesnp.com/campaigns/SNP_Manifesto_2011_lowRes.pdf
[75] Scottish Government (2011) *Renewing Scotland: The Government's Programme for Scotland 2011 – 2012*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/Doc/357504/0120772.pdf
[76] Woolvin, M., Atterton, J., Skerratt, S. (2012) *Rural Parliaments in Europe: A report for the Scottish Government*. Edinburgh: SAC Rural Policy Centre. http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/ruralparliaments/

4.6 Engaging with opportunities, negotiating challenges

To this point, we have reviewed the role of the third sector and civil society in rural Scotland. This section briefly reflects on key challenges of and for the sector.

4.6.1 Demonstrating impact, articulating value

As identified, there is an increasing emphasis – in policy – in encouraging third sector organisations to operate in an 'enterprising' manner. Across the UK, the voluntary sector has received an increasing proportion of its income from the public sector.[77] In Scotland, this has also been shown to be the case,[78] although the proportion of income that is drawn from the public sector varies by many factors including area of operation, location and deprivation for example.[79] Alongside this has been an increasing expectation that such organisations are able to demonstrate the impact of their activities and the value they provide, and recognition from the sector that the undertaking of such activity must also be balanced with remaining independent.[80] Measuring the social, economic and wider impacts of organisations which – as has been shown – undertake diverse and wide-ranging activities which are often preventative in nature – can be challenging.[81]

A recent report seeking to address the question 'Why involve the third sector in health and social care delivery' aimed specifically to identify examples, in Scotland, of the ways in which the third sector is contributing to this agenda. It found that evaluative documents seeking to illustrate the impact of the third sector were challenging to identify, particularly those assessing economic impact. However it did identify that: third sector organisations have an expert knowledge of local needs and preferences which allows them to develop more effective and relevant initiatives; volunteers contribute to this expertise and provide a flexible and economically efficient organisational structure; and third sector organisations are already meeting demands to provide improved health and social care services, particularly in areas of prevention. It also identified a range of means through which third sector organisations are demonstrating impact.[82]

Given the provision of the Change Fund,[83] in exploring the benefits and challenges of the coproduction of health and social care services in a rural context, a recent workshop brought together representatives of third and public sector organisations with researchers. Co-production 'describes a relationship between service provider and service user that draws on the knowledge, ability and resources of both to develop solutions to issues that are claimed to be successful, sustainable and cost-effective, changing the balance of power from the professional towards the service user'.[84] This has been given increased salience in Scotland given the recent recommendations of the Christie Commission that 'our public services can become more efficient and effective in working collaboratively to achieve outcomes. To do this, they must focus clearly on: the actual needs of people; energising and empowering communities and public service workers to find innovative solutions; and building personal and community capacity, resilience and autonomy'.[85]

It was reported that it can be challenging to demonstrate impact given the constraints of funding (often relatively short term and not making provision for the assessment of effectiveness); and that decision-makers should recognise the value of both quantitative and qualitative evidence in assessing impact. With regards to rurality, it was suggested that many rural areas may have a strong tradition of informal and formal support so the coproduction approach has 'always been used' here; these locations may therefore be more amenable to trying out new coproduction-based approaches but they may also be undertaking a great deal of unrecognised activity. At the same time, it was reported that the characteristics of rural areas, such as distance between settlements and population dispersal create additional costs in terms of service provision and supporting communities to build capacity.[86] It has recently been suggested that some third sector organisations in Scotland are reporting that there is an increasing interest in 'soft' as well as 'hard' measures from funders, and that there are innovative measures being developed to measure this.[87]

4.6.2 Capacity to operate in rural areas

As earlier outlined, it has been argued that dispersed geography, longer travel times and less comprehensive public transport infrastructure increase the cost of operation for third sector organisations in rural Scotland. Furthermore, some find economies of scale are not available to small rural services compared to larger urban counterparts[88] and that rural Voluntary and Community Sector Organisations.

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[77] *NCVO (2012) NCVO UK Civil Society Almanac 2012*. London: NCVO. http://data.ncvo-vol.org.uk/category/almanac/

[78] SCVO (2010) *SCVO Scottish Voluntary Sector Statistics 2010*. Edinburgh: SCVO. http://www.scvo.org.uk/wp-content/uploads/2010/08/SCVO_SectorStats_2010_Web.pdf

[79] Clifford. J., Geyne Rajme, F., Mohan, J. (2010) *How dependent is the third sector on public funding? Evidence from the National Survey of Third Sector Organisations.* Birmingham: TSRC. http://www.tsrc.ac.uk/LinkClick.aspx?fileticket=TiDxGXmS2Ko%3d&tabid=741

[80] See for example Panel on the Independance of the voluntary sector (2012) *Protecting independence: the voluntary sector in 2012.* London: Baring Foundation. http://www.independencepanel.org.uk/wp-content/uploads/2012/01/Protecting-Independence-final.pdf

[81] Lyon, F. (2009) Measuring the value of social and community impact. In Hunter, P. (ed) *Social enterprise for public service: how does the third sector deliver?* Pp29 – 36.

[82] Scottish Government and the Third Sector Research Forum (2012) *Why involve the third sector in health and social care delivery?* Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/0038/00386355.doc

[83] Scottish Government (2011) *Change Fund* http://www.scotland.gov.uk/Topics/Health/care/reshaping/changefund

[84] SCDC (2011) *Community resilience and coproduction: getting to grips with the language: a briefing paper*. Glasgow: SCDC. http://www.scdc.org.uk/media/resources/assets-alliance/Community%20Resilience%20and%20Coproduction%20SCDC%20briefing%20paper.pdf

[85] Christie (2011) *op. cit*.

[86] Atterton, J., Woolvin, M., Steinerowski, A. (2011) *The benefits and challenges of the coproduction of health and social care services in a rural context*. Edinburgh: SAC Rural Policy Centre. http://www.sac.ac.uk/ruralpolicycentre/publs/healthandwellbeing/coproduction/

[87] Osborne, S.P., Bond, S., Dutton, M., Honore, E. (2011) *The opportunities and challenges of the changing public sector landscape for the third sector in Scotland: a longitudinal study. Year two report*. Edinburgh: Scottish Government. http://www.scotland.gov.uk/Resource/0038/00388123.pdf

[88] Osborne, S.P., Honore, E., Bond, S., Dutton, M. (2011) *The opportunities and challenges of the changing public sector landscape for the third sector in Scotland: a longitudinal study. Year one report: Baseline findings. Edinburgh: Scottish Government*. http://www.scotland.gov.uk/Resource/Doc/342449/0113940.pdf

In Focus: Supporting self-evaluation

Steven Marwick, Evaluation Support Scotland

The world as Evaluation Support Scotland would like to see it is a place where people have the skills, time and support to evaluate, reflect and learn from, their work. Where learning from evaluation results in better services for people and communities.

ESS is funded by the Scottish Government and generates its own income from its workshop and support programmes. Since its establishment in 2005, ESS continues to work with most major Scotland funders, voluntary organisations, local authorities and public bodies; and with Scottish Government. From the 137 organisations which responded to our 2011 stakeholder survey, 98% said that ESS had helped them fit evaluation into day to day work and that after our support they are left with the skills to continue evaluating. They said that as a result of ESS support they can explain better the difference they make (79%), are using evaluation tools that work for them (75%), understand better the difference they make (74%) and use evaluation to improve their work of planning (73%). Our most common comment is that we make evaluation simple: "Their training was very practical. I came away with a finished set of evaluation tools tailored by me for my organisation." (online survey 2011)

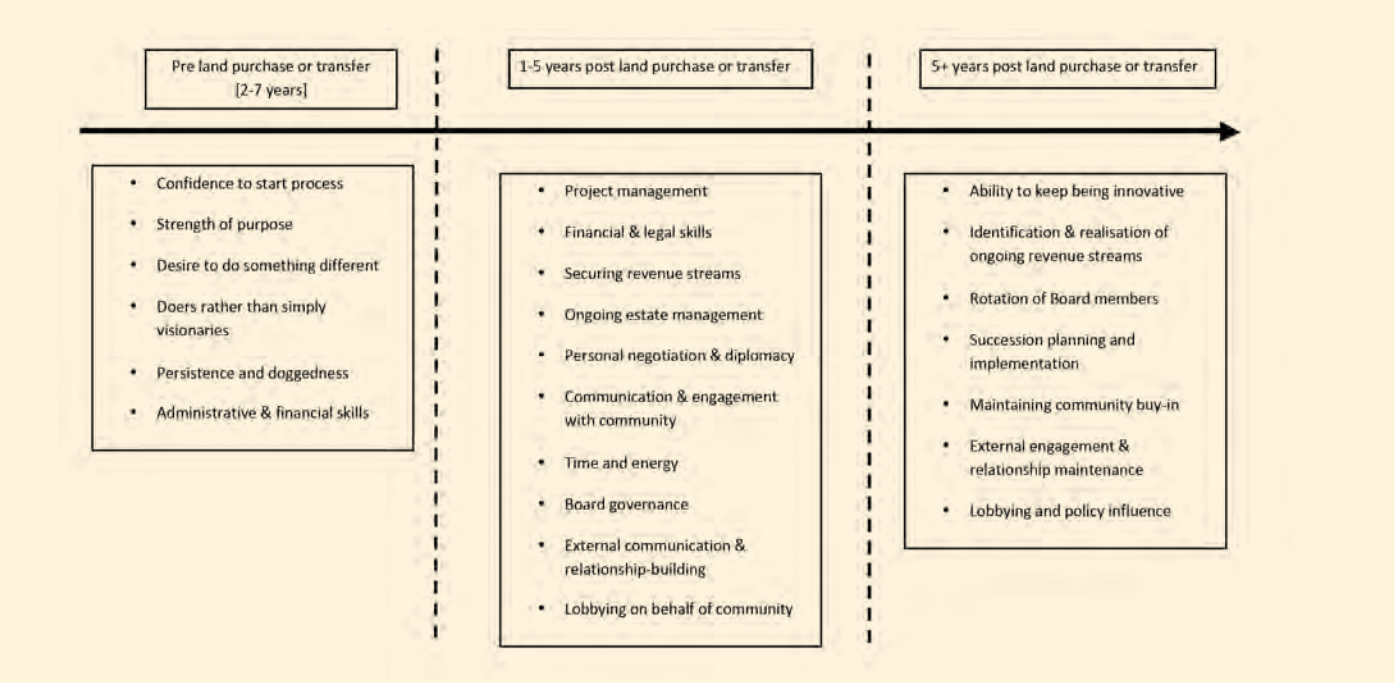
For ESS, 'evaluation' is about working out what we are doing, what difference we are making and what we can learn as a result. It involves asking questions, gathering evidence, analysing it and being prepared to act on the results. Evaluation should therefore be a practical process to help funders and voluntary organisations plan, reflect, learn and improve.

ESS's aim is to help voluntary organisations and funders to measure the impact of their work. It provides practical support, access to resources and tools, and takes action to build evaluation and learning into funding and policy-making processes. ESS champions the use of evaluation evidence and promotes self-evaluation. It also supports Scottish Government officials on outcome funding and access learning and evidence from the third sector."

Web: http://www.evaluationsupportscotland.org.uk Email: info@evaluationsupportscotland.org.uk

are generally smaller and more heavily dependent on volunteers.[89] It has also been argued that volunteers in rural areas – where there is a smaller pool of potential volunteers on which to draw – may be particularly likely to suffer volunteer 'burnout'.[90] Whilst the research presented above suggests that the number of hours spent volunteering formally does not appear to vary significantly between urban and rural areas, recent research does suggest that diverse skills are required in order to successfully develop civil society activity. In the context of Community Land Trusts in rural Scotland it has been found that the requirements change over time (see Figure 7).

Figure 7: Stages of community land purchase and development, and associated skills and capacities required.[91]



Importantly with regards to community capacity, it is found that 'although every community has the capability to carry through land purchase and subsequent development of assets, not every community has the resources or capacity within their community. Communities are capable of seeing what needs to be done, assessing their own skills and experience-base, and identifying how then to assemble appropriate people and skills – some of which may lie outwith the community, particularly in smaller, remoter areas. This, again, underlines the importance of external

[89] Hardill, I., Dwyer, P. (2011) Delivering public services in the mixed economy of welfare: perspectives from the voluntary and community sector in rural England. Journal of Social Policy 40 (1): 157 – 172.

[90] See: Shucksmith, M. Philip, L. (2000) *Social exclusion in rural areas: a literature review and conceptual framework*. Edinburgh: Scottish Executive. http://www.scotland.gov.uk/Resource/Doc/156716/0042124.pdf; Yates, H., and Jochum, V. (2003) *op. cit.*

[91] Skerratt (2011) *op. cit*.

connections which complement the considerable range of strengths, experience and skills of those within the communities'.[92]

Further research, reviewing the nature of rural community facilities in Scotland, has found that the volunteer committees of these physical assets are predominantly composed of retirees. This was found to pose challenges for succession, and consequently sustainability. In addition despite the significant skills which managing such facilities required, access to training was reported as challenging.[93] Long term financial sustainability was also influenced by such training and succession issues, however it is important to recognise that rurality interacts in complex ways with other factors (such as affluence) which can also influence the skills and capacities of local residents to contribute to the management of assets.[94] It has also been found as part of a national survey of volunteer involving organisations in Scotland that a larger number of charities in rural areas reported challenges in recruiting board members compared to more urban areas.[95]

It is therefore possible that in addition to being attentive to the time capacities entailed in participating in rural areas, attention should also be given to the skills often required, and the ways in which these may change over time.

4.7 The third sector and civil society in rural Scotland: present and future

Key findings regarding the third sector and civil society in rural Scotland presented in this section have been that:

- There are a higher number of charities per head of population based in rural Scotland compared to more urban areas.
- A particularly high proportion of the charities located in remote or accessible rural areas provide services or activities to those in their immediate area.
- The third sector is diverse. Organisations that have received particular attention in rural areas recently include Development Trusts, Social Enterprises and Community Land Trusts. These are examples of the third sector providing a wide range of services to the local community, potentially addressing the 'silo mentality' identified in 'Speak up for Rural Scotland'.
- Little data is available regarding the role of the third sector in providing services which is systematic across Scotland beyond the case study level. This gap is particularly pronounced regarding larger third sector organisations. This hinders urban/rural comparisons.
- There are high rates of formal volunteering in rural Scotland compared to more urban areas, however little is known about what is done, and the motivations for this. The gap in understanding regarding 'below the radar' activity also appears significant.
- There appear particularly novel approaches to participatory governance emerging in rural Scotland with regards to a Rural Parliament movement.
- Demonstrating the impact and added value of third sector involvement can be challenging, however there are examples of innovative approaches and support to achieve this.
- Operating in rural areas may present particular challenges in terms of resource use and volunteer availability, however a particularly vital component also appears to be access to volunteers with the appropriate skills within and beyond rural communities.

There appears a diverse and vibrant third sector and civil society landscape in more rural areas of Scotland, able to contribute to rural social and economic community resilience. There are more charities per head - and higher rates of formal volunteering - in more rural areas of Scotland. It appears that the purposes of charities may also vary across urban/rural categorisations, suggesting they may play a distinct role. A particularly high proportion of charities located in rural Scotland also appear to serve their local populations. Place-based activity such as Development Trusts and Community Land Trusts appears particularly characteristic of third sector activity in rural areas. In this sense, such activity may be particularly effective in overcoming a 'silo' mentality. There are also new models of participatory governance proposed for rural Scotland.

However there are challenges: appreciating how far these higher rates of activity are symptomatic of a 'substitutional' bridging of the gaps, or of truly 'additional' activity appears important in identifying to what extent initiatives seeking to further engage individuals and communities are realistic, appropriate and sustainable. Similarly, work needs to be undertaken to explore the motivations for, and experiences of, more and less formal voluntary activity. This requires in-depth examination of the roles of both civil society organisations themselves in urban and rural contexts, as well as the activities and motivations of volunteers. There is also a significant gap in knowledge regarding the role of larger charities which might operate across multiple LAs or nationally, in contributing to rural areas. This is largely a challenge of data, with thought urgently required regarding how this might most effectively be evidenced by representative bodies, Local Authorities or national government.

Whilst case-studies are of fundamental importance in articulating the value of activity, we also need to move beyond such an approach in order to support spatial comparison and develop a fuller picture of the distinctions and similarities in third sector form and function across Scotland. This would help further inform geographically sensitive third sector and civil society governance, which on the basis of the findings presented here appears justified in order to most effectively engage with and support this activity where appropriate.

[92] *ibid*
[93] Skerratt, S., Hall, C. (2011) Community ownership of physical assets: Challenges, complexities and implications. *Local Economy* 26 (3): 170 – 181.
[94] Skerratt, S., Hall, C. (2011) Management of community-owned assets post-acquisition: Brokerage for shared learning. *Local Economy* 26 (8): 663 – 678.
[95] Keller et al (2012) *op. cit.*

Section 5: Next generation broadband in rural Scotland: mobilising, meeting and anticipating demand

Sarah Skerratt, John Farrington[1] and Fiona Heesen[2]

Key points

1. There is no doubt that high-speed or next generation broadband is integral to social and economic development and to the delivery of Scotland's National Outcomes in rural Scotland.
2. However, despite strategies and investments since 1999, *much of rural Scotland remains in the "final third" with "not-spots" and "twilight zones" hampering inclusion and development. Urban* Scotland's connectivity, meanwhile, *is getting faster, faster.*
3. In fact, significant infrastructural investment, including by communities themselves, is required even to *maintain* the rural-urban digital divide.
4. Next generation broadband enables the realisation of commonly-accepted "rights" for Scotland's citizens, irrespective of location – and the role of next generation broadband in supporting the delivery of these rights is indisputable.
5. Demand for next generation broadband is persistent and increasing amongst rural businesses and communities, from accessible to remoter areas.
6. This demand for next generation broadband in rural Scotland, and the implications of not meeting it, means that partnership working and ongoing investment are becoming more critical. This is particularly so in times of efficiency budgeting and declining services experienced in many rural areas. National-level investment across Scotland remains essential. Communities, private and public sectors exchanging knowledge and experience - for example through Broadband Delivery UK, Scotland's Infrastructure Investment Plan, and Scotland's Digital Infrastructure Action Plan – are critical for rural communities and businesses to experience the advantages of a digital Scotland.

5.1. Introduction

It is widely accepted that high speed or next generation broadband[3] is now part of the required digital landscape in Scotland – for all of Scotland to thrive, contribute to sustainable development and to be a smart economy and society[4] [5] [6]. Since 2000, the Scottish Government has published a series of statements and action plans, and made a range of investments, all of which seek to enhance broadband infrastructure.

Whilst a focus on such infrastructure (or "plumbing") is absolutely critical, the other equally important aspect is the use of the internet and other broadband-enabled applications. What do such applications allow, facilitate or enable? And conversely, what is not possible should such infrastructure be inferior, inadequate or expensive?

To explore these issues, we have structured the Section as follows. Firstly, we look at how broadband infrastructure is the bedrock for applications and uses of the internet that people value (5.2.). We also consider whether outcomes realised through next generation broadband could be considered as "rights", with broadband thus playing a fundamental role. We then briefly review the strategies and investments undertaken in rural Scotland since 1999, and identify the extent to which a rural-urban digital divide still exists, with the persistence of "not-spots" and "twilight zones", with urban areas' relative connectivity becoming faster, faster (5.3.). We examine how communities are 'doing it for themselves' in order even to *maintain* the digital divide (5.4.). We conclude (5.5.) by re-emphasising why such future-oriented investment must continue and accelerate, and highlight specific means for doing so, if all of rural Scotland is to experience the advantages of digital Scotland to the full.

5.2. Broadband is more than infrastructure: what does broadband allow and deliver?

5.2.1. Broadband infrastructure

Next generation broadband is about more than infrastructure. However it is necessary briefly to look at Scotland's rural broadband infrastructure, how it is changing, and why "rural" continues to present a persistent physical challenge.

Broadband is essential infrastructure: The European Commission[7] states that "infrastructure underpins social well-being, the health and safety of citizens, and the quality of their environments" (p.1). Broadband is now, in the 21st Century, considered an essential part of infrastructure, alongside roads, air and water travel, electricity and fuel[8].

[1] Professor John Farrington, Director, dot.rural RCUK Digital Economy Research Hub, University of Aberdeen.
[2] Fiona Heesen, Postgraduate Researcher, dot.rural RCUK Digital Economy Research Hub, University of Aberdeen
[3] See Glossary of all broadband-related terms on the final page of this section.
[4] In this Section, many documents will be cited which confirm this. In addition, see, for example: Scottish Government (2006), *Next Generation Broadband in Scotland*: http://www.scotland.gov.uk/Resource/Doc/162457/0044141.pdf and The Royal Society of Edinburgh, (2010), Digital Scotland: http://www.rse.org.uk/cms/files/advice-papers/inquiry/digitalscotland/Digital%20Scotland%20%28med%20res%29.pdf
[5] See, for example, Consumer Focus Scotland 2011 Report: http://www.consumerfocus.org.uk/scotland/files/2011/09/Scotlands-digital-needs.pdf
[6] See, for example, Reform Scotland 2010 publication: http://reformscotland.com/public/publications/Digital_Power.pdf
[7] Stevens, B.; Schieb, P.A. Infrastructure: Mind the gap. OECD Observer, 2007, No. 263; Available online: http://www.oecdobserver.org/news/fullstory.php/aid/2411/Infrastructure:_Mind_the_gap. html (accessed 09-03-12)
[8] For further discussion, see Skerratt, S. (2010), "Hot Spots and Not Spots: Addressing Infrastructure and Service Provision through Combined Approaches in Rural Scotland", *Sustainability*: http://www.mdpi.com/2071-1050/2/6/1719/ (Accessed 09-03-12)

In telecommunications, there has been a rapid shift in infrastructure type: In ten years the means of access to the internet has evolved from a 'dial up/ broadband' mix, with broadband delivered through mainly fixed (copper) cable, to a 'broadband/mobile' mix, with broadband delivered through copper and fibre optic cable, plus satellite, and mobile devices being used much more commonly as the means of internet access. The Oxford Internet Survey (OxIS) 2011 shows that in Britain, 36% of internet users accessed internet by mobile phone, compared to only 11% in 2005[9].

Mobile broadband: The trend to increased use of mobile devices to access the internet is expected to increase dramatically worldwide. For example, authoritative forecasts predict that worldwide mobile data traffic will increase by 18 times between 2011 and 2016. This is due in part to a predicted surge in the number of mobile internet-connected devices (phones, tablets etc) to 10 billion – over 2 billion more than the UN's world population forecast of 7.3 billion in 2016[10]. The size and significance of this trend is illustrated by the forecast that the amount of mobile internet traffic added globally in 2015 to 2016 alone will be three times the size of the entire mobile internet in 2012[11]. Subsequent 'generations' of mobile phone (2G, 3G, 4G) are required for the speed and bandwidth needed to access many internet services such as digital healthcare, video, games, social networking and even standard websites delivering information and services.

Specifically-rural infrastructural constraints[12]: The constraints on internet access by mobile devices in rural Scotland are very similar to those applying to fixed broadband: mobile reception in many parts of rural Scotland is limited or non-existent[8]; as with broadband by cable, the market is thinner, and providers naturally invest in infrastructure (mobile and fixed) where the market is greatest and provides the best (rapid) returns on investment[13]. As Ofcom's 2010 Report[14] states for rural UK, including Scotland, relatively poorer internet access is:

"… a common experience of people who live in rural locations throughout the UK: they are less likely to have access to super-fast broadband, a 3G phone signal, and to a choice of suppliers through their local fixed telephony exchange… average broadband speeds delivered to premises in rural locations are typically lower than in urban areas; fixed-line take-up is often higher; and households are less likely in rural areas to take communications services in bundles" (p.3).

So, what are the **key physical characteristics of rural Scotland** that present challenges – both for past and future provision? The main elements are now summarised:

Fewer street cabinets: FTTC (Fibre to the Cabinet) is fibre optic cable from the telephone exchange to the street cabinets, then using existing copper wire to take the service to homes and businesses. Rural exchanges, in many areas, do not have street cabinets, so effectively every person on such a rural exchange receives their line directly from the telephone exchange. This means that, to move from copper broadband to fibre broadband requires fibre to the home (FTTH) or business, meaning that the scale of costs is much greater.

Weak backhaul: One of the most significant challenges for the Highlands & Islands, for example, is that the backhaul, or core network, is weak. The telephone network is, in effect, made up of single lines to the extreme points of that network. Being dependent on single lines means that the network has no loops to give resilience (back-up), and thus a breakage in single lines means that service can fail.

Length of copper phone lines: SQW[15], in their report 2006 to Scottish Government on Next Generation Broadband[16] state: "…a new 'broadband divide' has already started to open up between urban and rural areas, in terms of the availability of services (of) at least 5Mbit/s. Our expectation is that there will remain a significant proportion of Scotland's population (c. 26%) who will remain unable to access such services in the foreseeable future due to line lengths" (p.1). This point is echoed in Ofcom's (2010) report[14]:

[9] Oxford Internet Survey (OxIS), 2011, p.13
[10] CISCO. (2012). *CISCO Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011-2016*. Retrieved March 13, 2012 from: http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf (Last Updated February 14, 2012)
[11] CISCO Mobile Data Forecast, 2012.
[12] OECD (2001), *Information and Communication Technologies and Rural Development*, Paris. See also OECD (2001) *Understanding the digital divide*, Paris: OECD. http://www.oecd.org/dataoecd/38/57/1888451.pdf and OECD (2006), *Policy Brief: Reinventing Rural Policy*; Paris: OECD
[13] Department for Communities and Local Government (2010), "An assessment and practical guidance on Next Generation Access (NGA) risk in the UK": http://www.communities.gov.uk/publications/communities/assessmentngafinalreport
[14] Ofcom (2010), "Communications Market Report: Scotland": http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr10/scotland/ "The phenomenon of mobile voice not-spots, or areas where poor reception make reliable mobile calls difficult, is a familiar experience for some people living in Scotland's more rural and remote locations" (p.40).
[15] http://www.sqw.co.uk/
[16] Scottish Government (2006), Next Generation Broadband in Scotland: http://www.scotland.gov.uk/Resource/Doc/162457/0044141.pdf

"Broadband not-spots typically arise when the length or quality of copper telephone lines is not sufficient to support speeds via DSL broadband which are much higher than those available through 'dial-up' internet access. Generally, not-spots are most likely to arise in rural areas, where there can be long distances between homes and the local exchange" (p.36).

The authors of the (2006) SQW Report[16] show concerns as to how the additional requirements of next generation broadband will struggle to be met through current infrastructural capacity in rural Scotland:

"… Whereas the roll-out of 1B and 2B services[17] in rural areas require upgrades in core transmission, backhaul capacity and exchange equipment (but uses the existing copper access infrastructure), the bandwidths associated with 3B+ services go beyond the capabilities of the legacy BT copper access infrastructure and necessitate the extension of fibre deep into the access network – to the cabinet, if not the home. There would be major costs associated with such a roll-out, and – in areas with no infrastructure level competition – relatively little incentive for BT or anyone else to risk such an investment, given that 3B+ services would be competing with 1B and 2B services in these areas. Approximately 44% of Scotland's population will remain unable to access 3B+ services in 2015" (pp.1-2).

Masts required for next generation mobile broadband: In the scaling-up from 2G to 3G, the number of masts will need to increase. For 4G, additional new masts will be required, as well as further links to the fibre backhaul. Ofcom's Communications Market Report for Scotland (August 2010)[18] describes 3G coverage in Scotland at 41% geographic coverage and 66% population coverage. This is well behind the UK average levels of 76% and 87% respectively. Outwith the Central Belt and the Scottish cities, 3G coverage in Scotland is poor, with very little in rural areas[19].

5.2.2. What does broadband infrastructure allow and deliver, and should it be considered as a "right"?

The value of internet access: information, shopping, social networking, education, leisure, services

For well over a decade the potential value of internet access for people, communities, governance and business has been recognised[20]. In rural Scotland the role of the internet in providing 'virtual mobility', and thus 'virtual accessibility' to services, networks and information, has become an accepted addition to offline sources of information and networks, such as newspapers, television, telephone and physical social networks.

Seventy two percent of households in Accessible Rural areas and 69% in Remote Rural areas in Scotland have internet access, though 4% and 5% respectively are without broadband connection[21]. These levels compare closely with a rest of Scotland figure of 66% but are significantly lower than the GB 2011 household average of 77%[22].

In a 2003 GB study[24], it was found that people were already using the internet widely for virtual access to shopping, health and transport information, social networking (including especially by email at that time), and for educational purposes. These kinds of use were found to be in part a substitution for travel, but mainly as a supplement to existing travel, or as a replacement for increased travel[23]. Almost a decade later, it is important to recognise the much greater importance of internet in people's lives and in the delivery of rural services by the public and private sectors.

In general, "ease of finding information is one of the major reasons for going online, and people tend to turn to the Internet first."[24]. For example, in this recent GB survey, against a baseline figure of 71% of individuals who use the internet, 87% of them use it in relation to travel plans, 86% for information about local events, 79% for access to news, 71% for health information, 58% for sports information, and 47% in connection with job-seeking or work (*ibid*, p 23).

Lifestage is highly significant in internet use: in 2011, 99% of students and 87% of employed people used the internet, compared with only 37% of retired people (*ibid*, p18). Engagement in entertainment and leisure activities among internet users is practised online by proportions ranging from 13% for gambling, 51% for playing games, and 61% for listening to music (33% for uploading video or music files) (*ibid*, p 24). Buying products and using services online is another major use of the internet: 86% of users buy online and 60% bank online (*ibid*, p 25). Online retail sales in the UK have increased by four times since 2006, and now account for 12% of all retail sales[25]. 60% of all internet users in Britain take part in social networks (17% in 2007), and 53% post photos online; email is the most common form of communication, used by 96% of internet users[26]. Contact with friends who lived 'further away' was said by 46%

[17] First generation broadband ("1B") being 10 times faster than dial-up internet access, second generation ("2B") being 100 times faster, and third generation ("3B") being 1,000 times faster

[18] http://stakeholders.ofcom.org.uk/binaries/research/cmr/scotland1.pdf

[19] Scottish Government (2011), *Scotland's Digital Future: A Strategy for Scotland* p.34: http://www.scotland.gov.uk/Resource/Doc/981/0114237.pdf

[20] Kenyon, S., Rafferty, J., & Lyons, G. (2003). Social exclusion and transport in the UK: A role for virtual accessibility in the alleviation of mobility-related social exclusion? *Journal of Social Policy*, 32(3), pp. 317-338

[21] Scottish Government (2011), *Rural Scotland Key Facts* 2011, p 23. Edinburgh: Scottish Government

[22] The Scottish Government. (2011). *National Statistics: Rural Scotland Key Facts 2011*. Edinburgh: The Scottish Government. Available online: http://www.scotland.gov.uk/Publications/2011/09/29133747/0

[23] See Footnote 24, p 334.

[24] All percentages in this and the next paragraph (except where stated) are from the: Oxford Internet Survey (OxIS), 2011, p 21 – Full reference: Dutton, W.H. & Blank, G. (2011). *Next Generation Users: The Internet in Britain*. Oxford Internet Survey 2011. Oxford Internet Institute, University of Oxford. Available online at: http://microsites.oii.ox.ac.uk/oxis/

[25] BBC News (2012). UK retail sales rise by 0.9% in January. Retrieved March 12, 2012 from: http://www.bbc.co.uk/news/business-17071793 (Last Updated February 17 2012).

[26] OxIS 2011, p 34.

of internet users to have increased via internet use, and by 43% in the case of family contacts. Even when friends and family lived 'nearby', contact increased for 24% and 16%, respectively (*ibid*, p 38).

The Scottish Government is delivering more public services online. These include: telehealthcare, one aspect of which is the goal of allowing older people to remain in their own homes-assisting not only in reducing public costs but also aiming to enhance those people's independence and self-worth; and cultural access, which includes family history and the diaspora, Gaelic culture, and pictorial art from national collections. In GB, 40% of internet users get information about central government services, and 38% get information about local services, online[27].

The value of internet access: digital economy and economic value

Digital technology is also viewed as central in developing the vision of a digital economy in Scotland, for example in new markets for creative industries. A 2011 survey[28] of 1000 SMEs in Scotland showed that about 25% of them do not use the internet at all; of the 75% that do, most use was for email and web searching. This 'under-use' of the internet is viewed as being "a missed opportunity in driving innovation and, ultimately, contributing to sustainable economic growth"[29]. Good broadband connectivity is regarded by Government as "an enabler of economic growth in rural areas" (*ibid*, p 19) but poor connectivity inhibits maximisation of this potential[30].

Many different calculations of the economic value of the internet, in different countries with developed economies, show very significant contributions to GDP, ranging from 2.5% to 6%[31]. The assumptions inherent in such calculations are complex and contentious. Much depends on the question of what would be the case without the internet, which inevitably involves speculation. For example, have online retail sales resulted in the displacement of shop sales? Does online purchasing harm the economic future of small shops, or are rural shops rarely in existence now so rural purchasers have to search online? Conversely, are rural postal services gaining more business through delivery of online sales for rural purchasers[32]?

The value of internet access: social and cultural lives

As physical services decline in number in rural Scotland[33], it becomes more important than ever to have connected communities, business, and households. Without connections through internet and other systems (such as television, radio and telephone) rural dwellers will become increasingly isolated, not just geographically but also socially and functionally. Their roles in the wider society of Scotland, and in the globally connected world, will diminish; not only would their own quality of life and welfare be reduced, but the contribution of rural Scotland to wider society and economy would be constrained and would fail to meet its full potential, with social and economic costs. In turn these costs would fall upon wider national bases and affect the whole national capacity to generate well-being for its people.

The internet is also significant in the social and cultural lives of individuals and communities. Large proportions of the vast forecast increase in internet traffic, seen in the next section, are in two areas: social networking and content creation (such as uploading images, videos, websites, etc)[34]. The emergence of a new type of internet user- 'Next Generation User'- has been recognised, for example by the

[27] OxIS, 2011, p 29.
[28] http://www.scotland.gov.uk/Publications/2011/02/23091236/0
[29] Scottish Government (2011), Scotland's Digital Future: A Strategy for Scotland, p 18. Available online: http://www.scotland.gov.uk/Resource/Doc/343733/0114331.pdf
[30] One specific example is the potential of "cloud computing" which could save micro-enterprises the costs of software and ongoing upgrades; however, cloud computing requires reliable and fast digital connectivity.
[31] The variation is accounted for by whether the calculation includes social factors as well as economic; the higher percentage is where social factors are included.
[32] In addition, it should be emphasised that, in writing this, we do not ignore negative aspects of internet use. While these are not the prime concern in this Section, issues of trust, privacy, piracy, hacking, abuse, and bullying, as well as the potential for social exclusion when services and social networks are increasingly internet-based, must be recognised
[33] Skerratt et al (2010), *Rural Scotland in Focus*. http://www.sac.ac.uk/ruralpolicycentre/publs/thrivingcommunitiespublications/rsif/
[34] OxIS 2011, p 27.

Oxford Internet Institute: these are people who use multiple mobile devices for internet access, and are increasingly likely to engage in content production (social networking, posting photos or videos, owning a personal website, blogging and posting creative work).

5.2.3. What does research say about the value of internet access?

Research findings echo much of the headlines from reports and surveys cited above. Specifically for rural Scotland, the value of this rapidly growing global digital highway relates firstly to 'economy' (enterprise and business), and secondly to 'society' (communities and individuals). As outlined above, research also recognises two related characteristics of internet use: as information and communication; and as a 'new dimension' of society where new forms of social interaction and creativity are virtually located.

For rural Scotland's enterprise and business

The internet creates possibilities for networking, for example with suppliers and with cognate companies, and for reaching new markets. Rural Scotland has particular characteristics which are known world-wide and used as aspects of 'the brand' by businesses. High-speed internet connection is obviously fundamental in these activities. Major opportunities exist in blending cultural resources (such as music, art, dance, lived experience, heritage and language) through the internet, with the potential for social use, heritage tourism, and other business activity, that can be associated with emerging and growing markets. Existing pathways and constraints of commercialisation, for example in music, can be successfully bypassed, for example by posting output on the internet, with a world-wide audience unreachable in any other way: in this way young musicians and writers can develop a profile – and a career – without the difficulties of securing a deal with a company in the first instance. One example in Scotland is the Gaelic/English group Mànran[35] who have been met with substantial success by using online media and social networking to generate support for their debut Gaelic single "Latha Math", released in January of 2011. It finished Number 1 on the UK singer/songwriter charts, Number 6 on the Scottish download charts and Number 6 on the Radio 1 Indie Charts. With no label nor management, the single (and subsequent album) was only available through online music download sites, demonstrating the role the internet can play in creating opportunities for independent artists[36].

In Scotland's rural society

The internet supplements existing networks and create new ones online[37]. The historical diaspora from rural Scotland has its modern counterpart in global population mobility resulting in dispersal of families, and internet connection through email or voice maintains contacts in a much more immediate fashion than written communication, and probably at less cost than telephone. Within communities, their capacity to take action, to organise and encourage activities, and to communicate these to wider participants is significantly improved through internet use[38], and thus their sustainability, and resilience in conditions of change are increased (see below). It is as a 'new dimension' of society that the internet might be finding its true identity - a purpose greater than a means to an end of information and communication. It incorporates ideas of interaction and co-creativity at the global scale, with significant implications for new modes and models of social and economic productivity. For rural Scotland, exclusion from this 'new dimension' would increase marginalisation, both internally and globally.

For Scotland's rural (health) services

Carefully plotted paths are needed to identify the most appropriate use of digital technology in public service provision, in a context of tight constraints on public spending. Examples from current research at the University of Aberdeen illustrate possible approaches[39]. Pressure on NHS resource might lead to a reduction in the frequency of personal care visits by professionals to the homes of older people. Digital technology could play a part in ameliorating the impact of such change, by providing an easy-to-use internet connection between the patient, and the health professional, thus allowing the patient to remain in their home for longer. A striking feature of such approaches is the benefit to be gained by cross-sectoral service planning and provision, and the use of digital technology might well be a driver for such collaboration. For example in the provision of information about possible travel options in rural areas, the integration of 'offers' of transport from all available providers (from taxi operators, to lift-giving, community and health transport, and scheduled operators) onto a digital platform has the potential to provide rural dwellers the ability to input their preferences and requirements and to get tailored solutions. Such an approach requires collaboration between all these transport providers, across public and private sectors, which in itself might require new cultures.

[35] http://manran.co.uk/wp

[36] We acknowledge this information provided by Dr Marsaili MacLeod: http://www.abdn.ac.uk/sll/staff/details.php?id=marsaili.macleod

[37] Rusten, G. and Skerratt, S. (2008), *Information & Communication Technologies in rural society: Being rural in a digital age*, Edited Research Monograph. London: Routledge.

[38] See also: "Internet use and its diffusion matter to community participation; that is, digital and participatory capitals are related". Quote from Stern, M.J., Alison E. Adams, A.E., and Jeffrey Boase, J. (2011), "Rural Community Participation, Social Networks, and Broadband Use: Examples from Localized and National Survey Data", *Agricultural and Resource Economics Review* 40/2 pp. 158-171.

[39] See In Focus box on dot.rural at Aberdeen University: www.dotrural.ac.uk

In Focus: Transformation through Digital Innovation: Rural Research – dot.rural

dot.rural is a Research Councils UK Digital Economy Research Centre at the University of Aberdeen, with £11.8 million funding over five years. Its 80 researchers are exploring how digital technologies such as mobile devices and the Internet can enhance the delivery of crucial services in rural areas. In addition to its innovative work in Scotland, it is engaged in projects across the UK. Specifically it focuses on the challenges in areas such as transport, healthcare, enterprise, culture, society and the environment. (Please see www.dotrural.ac.uk)

Accessibility and Mobilities – Digital technologies have the potential to improve transport services, opportunities and information systems for rural areas. Sustainable transport systems are a critical driver of economic, social and environmental well being, but rural provision is continuously problematic. The project teams are working to provide more flexible and integrated transport services through the development of novel technology. Some projects include:

- Flexible Integrated Transport Services (FITS): aiming to develop a prototype platform to explore the feasibility of a virtual transport marketplace to more efficiently match existing demand and supply for rural areas
- Informed Rural Passenger (IRP): working in the Borders, IRP is creating a transport information ecosystem with passengers at the centre as both consumers and suppliers of information

Healthcare –Healthcare is often characterized by increasing expenditure and chronic disease; this is exacerbated in rural communities by a lack of economies of scale, peripherality and specific environmental health issues. Digital technologies promise to enhance interactions with health and social care systems for people of all ages in rural communities. The project teams are addressing such challenges as care provision and decision-making in emergency situations and the management of chronic disease. Some projects include:

- Managing Information in Medical Emergencies (MIME): investigating how technology could support responders to incidents such as road accidents
- Technologies to support Older people at home: maximizing Personal and Social interaction (TOPS): developing technology to support older adults with chronic pain while maintaining the importance of social and personal interaction with their health and social care providers.

Enterprise and Culture –Rural enterprise is an essential element of rural development and is both a way of attracting new populations to the countryside and sustaining existing rural communities. Challenges include poor infrastructure, lack of high-speed Internet access, isolation, and a dispersed population. The project teams aim to address the efficiency, profitability and sustainability of rural enterprises through improved cooperation and understanding of technology use. Some projects include:

- Agent and Semantic Support for Rural Enterprise (ASSURE): exploring how online networking can help rural businesses to identify potential useful connections and collaborations
- Satellite Internet Rural Access (SIRA): exploring both the technological challenges and the social and economic transformational impact of enhanced Internet provision using novel satellite techniques
- Cultural Repositories and Information Systems (CURIOS): working in the Outer Hebrides, and elsewhere, CURIOS is exploring how digital archives can support local interest in local heritage and potentially contribute to community regeneration and cohesion.

Natural Resource Conservation – Rural communities can connect via digital technologies to the natural environment to help them transform the way they manage, use and conserve natural resources. Natural resources are fundamental to society; water, land and the species within all form part of our surroundings. The project team is addressing the real-time monitoring of changing conditions in the environment by harnessing and integrating local knowledge with existing and new data, through the development of novel technologies.

Digital Engagement and Resilience (DEAR) – This project cuts across all the dot.rural themes and projects to distil "meta-lessons" and generate key pointers for increasing resilience of rural communities through digital technologies. For the first time, patterns of any transformational impact of technology, and potential for transferability and scaleability will be identified. This project is also liaising with policy sectors to provide a nuanced, robust, analysis of the influence of technology, and is working in Scotland, and in Northern and South West England.

5.2.3. International perspectives on internet access as a right

Given the reported (and increasingly well-known) value of broadband-enabled internet access, and the awareness of implications of *exclusion* from a digital society and economy, some international commentators are moving towards considering broadband as a right.

In their report section entitled *Participation for all in the knowledge-based economy*[40], the European Commission stated, more than 10 years ago, that:

"As the knowledge-based economy advances, the exclusion from ICT becomes more and more a barrier to economic, employment and social opportunities and to using public services. Disadvantaged areas and groups are at higher risk of lagging behind for various reasons including low income and poverty, lack of ICT infrastructures, awareness and training opportunities, or difficulties of access because of disabilities. ***On the other hand, ICT can overcome barriers of distance, distribute more equally knowledge resources, and generate new services. …*** *Thus, the risks of the digital divide need to be transformed to* ***digital opportunities*** *by actions focused at disadvantaged groups and areas."* (European Commission 2001, p.17).

The UN has recognised the internet as *a means* to achieving rights such as freedom of speech, and access to health and education,

[40] Source: *eEurope+ 2003: A Cooperative Effort to Implement the Information Society in Europe. Action Plan*. Brussels: European Commission Publication. http://ec.europa.eu/information_society/eeurope/i2010/docs/2002/action_plan/eeurope_2003.pdf (accessed 09/03/2012)

stating: "While access to Internet connection is not yet recognized as a human right, the report focuses on the *positive obligation* of States to facilitate the enjoyment of the right to freedom of expression via the Internet, and outlines both challenges and positive initiatives to make the Internet available, accessible and affordable to all segments of society…"[41]

Tim Berners-Lee, who wrote the computer code for the World Wide Web in 1990, has expressed succinctly a realistic view in assessing its impact and potential since 1990: "The most important change is the percentage of the world's population using the internet. That shift has been huge. People are realising the advantages of the web. *It is seen almost as a human right*."[42]. The rights of citizen participation through the internet[43] are also highlighted by Warren: "…it is likely that some of the most vulnerable members of rural society will be excluded from the most potent opportunities to play their full part as citizens, and to reap the benefits which are their right" (p.386).

Some countries, such as Finland, have declared internet access itself to be a right [44]:

"Finland's Ministry of Transport and Communications has committed to ensuring that every person in Finland can access the internet at a minimum speed of one megabit per second from July 2010. It is the first country in the world to make universal minimum internet access speeds a legal requirement. "We think [the internet is] something you cannot live without in modern society," said Laura Vikkonen, a spokesman for the ministry. "Like banking services or water or electricity, you need an internet connection. Universal service is every citizen's subjective right."[45]

In Focus: Fast rural broadband is a democratic imperative

The importance for rural areas of high quality internet access, and its benefits for education, can hardly be over-estimated. A key consideration of course is that "broadband" simply means broad bandwidth, it does not necessarily specify how broad. The speed of the connection varies hugely between countries, and within countries/regions, so while a major UK rural secondary school might get 12 Mbps it drops off very sharply to the rural primary schools, who will be lucky to get 2 Mbps. The key point is what can we do with whatever level of bandwidth that we get? Much more work remains to be done on this, but there are several tantalising examples. The University of the Highlands and Islands already uses high-definition videoconferencing for networked tuition and meetings across the region and uses videoconferencing for Higher Education more than all the other universities in the UK put together. It is the biggest user of videoconferencing for Higher Education in Europe, (15,000+ connections per year) and it's possible to imagine the extension of the network to allow schools to deliver lessons throughout the country, even minority subjects to small class sizes, and from specialist teachers in any part of the country. Local Authorities, Health Trusts, and local businesses could also benefit. Online learning enables us to offer a highly personalised learning experience, study at any time of day and almost any level of study. With online libraries and digital resources, educational materials are no longer only held in big buildings in a city, but distributed. The benefits for rural areas are substantial; students of all ages can study closer to home, there are fewer disruptions to economic and family life, and the knowledge gained – and social capital – remains within the rural areas to stimulate further innovation, services, and investment.

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5.3. What investments and strategies have been developed and delivered in and for rural Scotland since 1999, and have they addressed rural-urban digital divides?

The challenge of broadband access in Scotland is not new. Since the formation of the Scottish Parliament in 1999, 'Digital Scotland' has been on the agenda (see Timeline, Figure 1). In October 1999, the Scottish Executive (SE) announced the setting up of a ministerial Digital Scotland task force to ensure that Scotland would be a leading digital society[46], where Scotland "obtained and retained maximum economic and social advantage from the new digital technologies"[47]. The task force reported recommendations for action, including a review of digital communications links in Scotland's rural areas. SE responded to the Report in September 2000, setting out an agenda for action with four separate strands[48]: digital commerce; digital government, digital skills and digital inclusion. The Ministerial Foreword to the subsequent 2001 *Digital Scotland: Our Broadband Future* stated that:

"A Scotland without fast, reliable, state of the art connections to global communications networks is a Scotland that will not prosper. It is a Scotland that will not be able to offer its businesses full access to all of the opportunities that the Internet can offer. It is a Scotland that will not be able to provide its citizens with the services that they expect and deserve. It is a Scotland that will not be able to offer its people the access to the educational opportunities that they need."[49]

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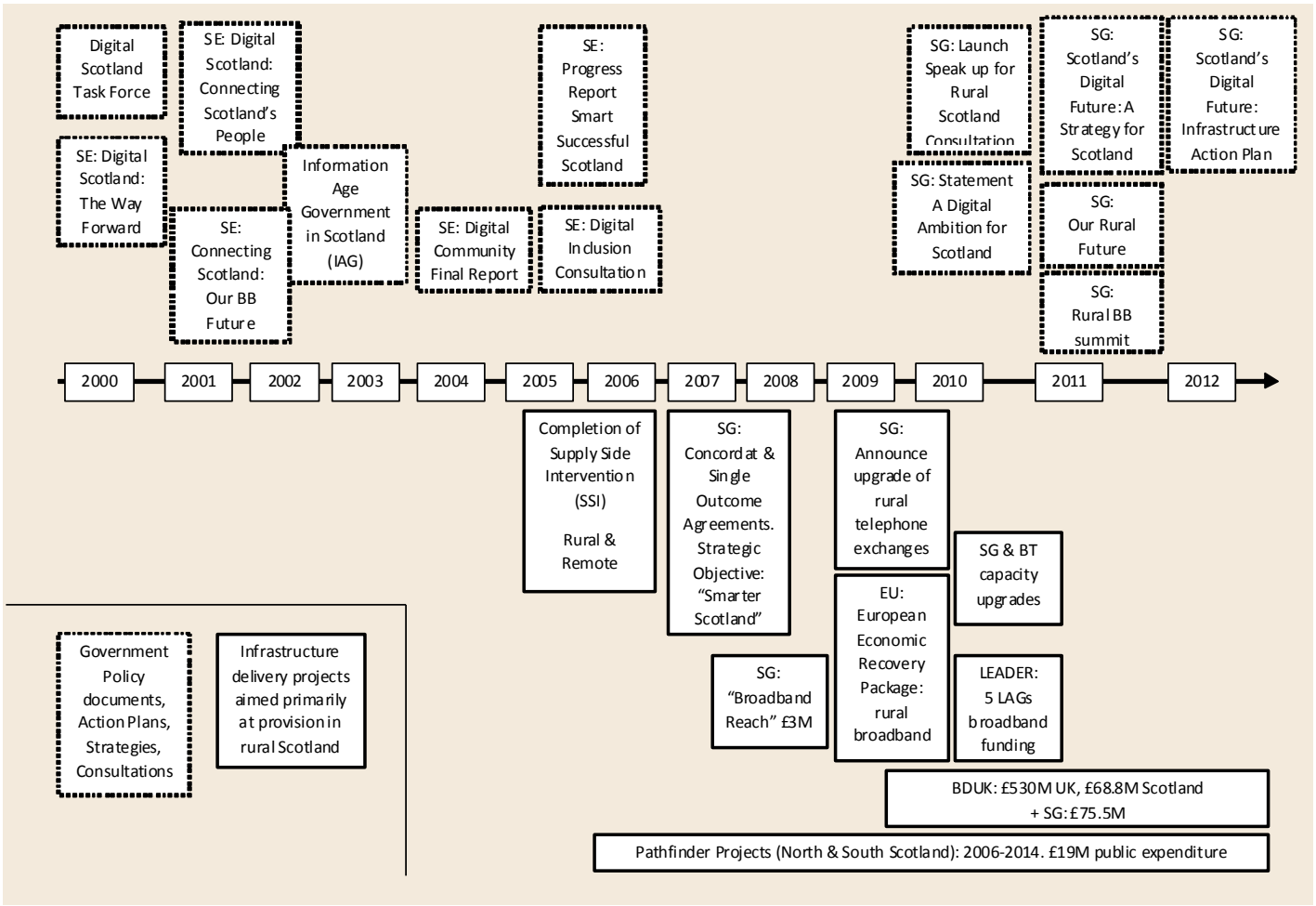
[41] UN General Assembly, 2011, 1.
[42] Berners-Lee, T, quoted in Sunday Times Magazine, 5th February 2012, p 79.
[43] Warren, M. (2007), "The digital vicious cycle: Links between social disadvantage and digital exclusion in rural areas", *Telecommunications Policy* 31 (2007) 374–388.
[44] http://www.guardian.co.uk/technology/2009/oct/14/finland-broadband
[45] It is worth noting that universal right can thus mean a level of provision unlikely to meet everyone's expectations, here at 1MB/sec.
[46] http://www.scotland.gov.uk/News/Releases/1999/10/1b320e97-f404-475b-b987-c22917cb8c8b
[47] http://www.scotland.gov.uk/News/Releases/2000/05/e8db1681-ed30-493c-a9a4-bb95b120adaf
[48] http://www.scotland.gov.uk/News/Releases/2000/09/3882dad3-447c-4905-be14-ec1b1fc1765d
[49] Scottish Executive (2001), *Digital Scotland: Our Broadband Future* (Broadband Strategy for Scotland). Edinburgh: Scottish Executive, p.3. http://www.scotland.gov.uk/Resource/Doc/47251/0025748.pdf

Further, the Scottish Executive set out a Vision in *Digital Scotland, Connecting Scotland's People*, (Sept 2001)[50]:

"*A digitally-inclusive Scotland will ensure more equal, effective and beneficial access for all people to the digital technologies and Web facilities that benefit them in their day-to-day lives. In a digitally-inclusive Scotland, the public, private, and voluntary sectors will make positive use of digital technologies and the Web to improve quality of life and deliver new opportunities for disadvantaged individuals and communities*".

The Report goes on to state that: "the digital divide will not close of its own accord. Without intervention, the level of comparative social disadvantage experienced by the digitally excluded can be expected to worsen." (p.6). This theme of social inclusion through digital technology is also highlighted in the SE *Social Justice Annual Report* (2002), where it is stated that: "Access to information, support, individuals with expertise, and up-to-the-minute news digests, are seen as important elements of 'social justice', and as such, should be available to all, irrespective of geographical location"[51]. A central strand[52] of SE's Digital Inclusion Strategy was two Digital Communities Pilot Projects, in two disadvantaged and/or inaccessible areas of Scotland – one urban and one rural: Mull and 12 other north Argyll islands, and Bellsmyre in West Dunbartonshire. The final report assessing these projects[53] emphasised the need for infrastructural provision to be examined, and for the required improvements to be fully taken into account, *before* initiatives focused on increasing internet usage are put in place (p.11). Specifically in the rural target areas, the authors found that the Digital Communities pilot project: "encountered problems early on with the presence of DAX[54] lines, where one phone line is split between several households, on the islands. While adequate for telephone calls, DAX lines lead to very slow internet access speeds. They are also expensive to replace" (p.10).

Figure 1: Digital policy and investment timeline: 2000-2012



Following on from the SE's digital inclusion initiatives[55], there is a growing momentum towards infrastructure delivery projects specifically targeted at rural Scotland from the mid-2000s onwards (see Figure 1). These were largely through public-private sector partnerships, and included: **Broadband for Scotland Rural and Remote Areas Supply-Side Intervention (SSI)**[56]; **Broadband Reach Programme**[57]**; Exchange Activate Programme**[58]; and the **rural broadband internet capacity upgrades**[59]. Additional actions

[50] http://www.scotland.gov.uk/Resource/Doc/158435/0042935.pdf
[51] Scottish Executive (2000), *Social Justice – A Scotland where everyone matters. Social Justice Annual Report*, Edinburgh.http://www.scotland.gov.uk/Publications/1999/11/SocialJustice (accessed 09/03/12)
[52] http://www.scotland.gov.uk/Publications/2004/08/19735/40932
[53] http://www.scotland.gov.uk/Resource/Doc/17002/0024843.pdf
[54] DACS: Digital Access Carrier System (digital information being sent over copper lines for more than one household at a time).
[55] Including: 1000 public internet access points (£3.2M); Connected Communities Programme (as part of National Grid for Learning).
[56] See Report: http://www.scotland.gov.uk/Resource/Doc/212800/0056576.pdf
[57] http://www.scotland.gov.uk/Topics/People/BroadbandforScotland/SEBroadbandInitiatives/LatestNewsAnnouncements
[58] http://www.scotland.gov.uk/Topics/People/BroadbandforScotland/SEBroadbandInitiatives/LatestNewsAnnouncements
[59] http://www.scotland.gov.uk/News/Releases/2010/03/19114307

were implemented through the Scottish Government-sponsored **Pathfinder Project**[60], which began in 2006 and will run until 2014[61]. Further investment was realised through European funding programmes, including the **European Economic Recovery Package**[62] and European LEADER funding enabling the **LEADER Broadband Challenge Fund**[63] to be set up in Scotland, both of which also required financial input from the Scottish Government.

In addition to these projects and programmes, there is a UK-wide broadband initiative: **Broadband Delivery UK (BDUK)**[64]. Scottish Government, Highlands and Islands Enterprise, South of Scotland Alliance[65], Local Authorities and private sector companies are involved in delivery of the BDUK approach of focusing on the "final third" where the market is unlikely to go. The Scottish allocation of the UK £530M budget is £68.8M, with an additional £75.5.M coming from Scottish Government. Public sector partners are expected to contribute, with other sources being examined. Current progress has moved beyond pilot projects and procurement is currently underway (2012) in Highlands and Islands and the rest of Scotland, with deployment likely to take place between 2013 and 2020[66].

Parallel with, and subsequent to, these projects and programmes, a number of statements and plans have been issued by the Government[67]. In October 2010, the Scottish Government published their Statement entitled *A Digital Ambition for Scotland*[68], followed by *Scotland's Digital Future: A Strategy for Scotland*[69] (March 2011), and *Scotland's Digital Future: Infrastructure Action Plan*[70] (January 2012). Some key points of these documents are now briefly reviewed.

The Government's *Digital Ambition for Scotland* Statement (October 2010) is that: (i) next generation broadband will be available to all by 2020, and significant progress will be made by 2015; and (ii) the rate of broadband uptake by people in Scotland should be at or above the UK average by 2013, and should be highest among the UK nations by 2015. This ambition is described as being realisable through a joined up approach in government (across ministerial portfolios) and through partnership working – between enterprise agencies, local government, universities, colleges, cultural bodies, the private sector, communities, individuals, MSPs, the UK Government and Ofcom[71] (p.1). Broadband is described as an enabler of business productivity and innovation, minimising "exclusion in geographically remote communities", and an integral part of Scotland's transition to a low carbon economy, where "fit-for-purpose broadband connectivity will play an instrumental role" (p.3). The statement sets out the need for Government to work with partners to stimulate demand, particularly in areas where the market is failing. There is recognition that "Scotland's remote and rural areas could still suffer" (p.3) and that ongoing partnership working, including through public sector programmes, as well as broadband-related activities and procurement in Scotland's communities (p.5), will all play a vital role.

This Statement is expanded upon in the Government's subsequent publication of *Scotland's Digital Future: A Strategy for Scotland* (March 2011), where there is recognition that "broadband connectivity is an enabler of economic growth in rural areas" (p.19) and a restatement of the ambition that: "next generation broadband will be available to all by 2020, with significant progress being made by 2015" (p.31). Richard Lochhead[72] chaired a 'Rural broadband summit' in March 2011, where he stated that: "The provision of broadband is key to unlocking the next stage of Scotland's development and ensuring that everyone has access to the opportunities technology brings… Access to high speed broadband is central to the future development of rural areas"[73]. We also read in the Government's *Infrastructure Investment Plan* (December 2011) that: "Scotland has some of the most challenging rural geography and public sector action will be required to facilitate and extend the roll out of next generation broadband across the whole of Scotland to ensure that rural and remote communities are not left behind" (p.47).

This sentiment was further expanded when the Government published *Scotland's Digital Future: Infrastructure Action Plan (January 2012)*. This Plan outlines the steps towards achieving: "…a world-class future-proofed digital infrastructure across all of Scotland by 2020, with an interim milestone of … a step change by 2015". In the Ministerial Foreword to the Action Plan, we read that "it is particularly critical for rural and remote communities to be digitally connected in terms of economic viability and growth" (p.1). This theme is pursued in the body of the Plan, where we read that digital infrastructure contributes to the delivery of Scottish Government outcomes: "These improvements to our infrastructure are essential if we are to … have vibrant, strong and connected communities in … rural areas" (p.3). The Plan discusses not only fixed broadband, but also mobile broadband, where the lack of rural mobile coverage is noted. It is important to note that the Government describes its intervention as addressing market-failure[74], continuing the trend of the investments we have already seen (outlined above):

[60] The focus is on public sector networks to schools, libraries, local authority offices, social work centres etc. "It involved two separate schemes, one for the North and the other for the South of Scotland. These will run until 2014. £90m of public expenditure was committed in this intervention (£63m for the North and £27m for the South). It supports the provision of high speed broadband to rural and more remote parts of the country" (McLelland Review, 2011, p.21: http://www.scotland.gov.uk/Resource/Doc/351231/0117794.pdf) including to seven rural Local Authority areas Scottish Borders, Dumfries & Galloway, Argyll & Bute, Highland, Moray, Orkney Islands and Shetland Islands.

[61] Report available here: http://www.scotland.gov.uk/Publications/2011/02/23091038/0 . See also McLelland's assessment, 2011, pp.21-22: http://www.scotland.gov.uk/Resource/Doc/351231/0117794.pdf

[62] Recognising that 30% of the EU rural population still has no access to high speed internet. See: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/35

[63] http://www.ruralgateway.org.uk/en/node/2430 The 5 areas selected (from 13 which applied) were Borders, Forth Valley and Lomond, Outer Hebrides, Orkney and South Lanarkshire. See also: http://www.bbc.co.uk/news/uk-scotland-south-scotland-12018679

[64] http://www.culture.gov.uk/what_we_do/telecommunications_and_online/7781.aspx

[65] Comprising: Scottish Borders Council, Dumfries & Galloway Council and Scottish Enterprise.

[66] See SAC's Rural Policy Centre website: http://www.sac.ac.uk/ruralpolicycentre/xpgruralpolicy/xpgruralpolicydec2011/

[67] In addition to digitally-specific plans and strategies, also see Scottish Government's (2011) Infrastructure Investment Plan: http://www.scotland.gov.uk/Publications/2011/12/05141922/10

[68] http://www.scotland.gov.uk/Resource/Doc/127299/0114686.pdf

[69] http://www.scotland.gov.uk/Resource/Doc/981/0114237.pdf

[70] http://www.scotland.gov.uk/Resource/0038/00386525.pdf

[71] See the launch of the Digital Participation Charter: http://www.scotland.gov.uk/News/Releases/2011/11/07133415

[72] Cabinet Secretary for Rural Affairs and Environment, Scottish Government.

[73] http://www.scotland.gov.uk/News/Releases/2011/03/09130620

[74] See Figure 1 in this Section.

"We expect the majority of investment across Scotland to be market-led, therefore the focus of our investment will be in those areas where the market will not go… defined by the EU as 'white' areas[75]*. Our analysis suggests that the market will not deliver to around 30% of premises and that semi-urban, rural and remote areas are the most likely to fall into this category"* (p.10).

The *Infrastructure Action Plan* was debated in the Scottish Parliament in February 2012[76]. Cabinet Secretary for Infrastructure and Capital Investment, Alex Neil MSP, referred to the June 2011 Parliamentary Debate where "there was overwhelming cross-party consensus that improving broadband and mobile coverage in rural areas must be a key priority of not just the Government, but the Parliament" (p.2). Further, he confirmed that:

"a key part of the Government's approach is that rural and remote areas will not be left to the tail end of the process because they are rural and remote. In fact, the benefits that will be gained by rural and remote areas are proportionately greater than those that will be gained by some of our more urban and central areas. They will be starting from a lower baseline, so the improvement will be greater. From an economic as well as a social and cultural point of view, we are keen to ensure that rural and remote areas are not left at the end of the queue when it comes to the roll-out of the technology" (p.1).

This is a important statement, since in public discussions[77], there is some concern that the "final third" currently with low broadband speeds in remote and rural Scotland will remain so due to the apparent focus being on backhaul infrastructure upgrading, ensuring it is "fit for purpose and future-proofed" and "reaches those areas where the market, if left to its own devices, would not go. Those areas will mostly be rural areas…" (p.2).

Alex Neil MSP also highlighted the Government's commitment to mobile coverage – as we have outlined in this section, there is a substantial increase in mobile access to the internet and this presents challenges in rural areas; he states:

"More important for rural areas, the allocation of the £150 million fund for mobile access is still to be announced. Many rural areas in Scotland will require mobile access rather than fibre-optic access. Our view is that, once we know what our share of that allocation is… we will be in a position to be more precise about which communities our share of the resources will go to… More and more people are accessing the internet from mobile devices while they are on the move… Quite simply, Scotland's businesses and people—and its MSPs—cannot do without faster broadband speeds and decent mobile coverage" (pp.1 and 2).

Such sentiments and commitments are consistent with the Government's consultation on wider rural issues, challenges and opportunities. As one part of this process, the Scottish Government commissioned the Rural Development Council[78] to develop a vision for rural Scotland, for consultation in 2010. *Speak up for Rural Scotland*[79], written by the Rural Development Council, was published by Scottish Government as a consultation document in July 2010. This specified 37 Step Changes for Rural Scotland; Step Change 25 reads:

"We see access to high-speed broadband as a fundamental requirement for 21st-century rural Scotland. We encourage the Scottish Government to enable the provision of high-speed broadband to all in rural Scotland who wish to use it, and to do so significantly ahead of the UK national timeline targets"(p.16).

In the report analysing the responses to the consultation (published in January 2011[80]), the Step Change that was seen as *the* most important to respondents was:

"access to high-speed broadband in all of rural Scotland, with respondents arguing that this is a fundamental requirement. High-speed broadband was perceived to be necessary for rural businesses to function effectively and be competitive, as well as offering potential benefits for community and social wellbeing" (p.2).

In March 2011, the Scottish Government responded to the consultation findings in a Report entitled Our Rural Future[81]. Of particular relevance here is the response on rural broadband:

"Improved broadband access in rural areas is required for both households and businesses, and is a priority in the Scottish Government's Digital Strategy which has recently been published. The Digital Strategy follows our Digital Ambition for Scotland statement … which set the target of availability of next generation broadband for all by 2020, with significant progress to be made by 2015. The Strategy contains specific action plans, setting out the activity we will take forward over the coming year to achieve this target. This work will include exploration of whether, and if so, how, a commercial case could potentially be made for these services to be provided through market-led investment. In addition, in rural areas specifically, we will assess how a bottom-up approach, incorporating community models, could best be integrated into our overall broadband strategy. We will also consider the opportunities for wider community use of existing public sector broadband infrastructure in rural areas - such as that delivered through the Pathfinder projects. We will also continue to work with UK Government to ensure that rural Scotland maximises its income from the £830 million allocated at UK level for delivery of the UK Government's new broadband strategy, published in December 2010" (p.3).

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[75] As defined by EU state aid guidelines: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009XC0930(02):EN:NOT
[76] http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=6780&i=61549&c=1274467
[77] For example, in the Cross Party Group on Rural Policy at the Scottish Parliament, Dec 2011: http://www.sac.ac.uk/ruralpolicycentre/xpgruralpolicy/xpgruralpolicydec2011/
[78] Set up in 2008 by the Cabinet Secretary for Rural Affairs and the Environment, Richard Lochhead. The Council was an independent forum with a broad range of expertise on rural matters.
[79] http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/396
[80] http://www.scotland.gov.uk/Resource/Doc/337396/0110717.pdf
[81] http://www.scotland.gov.uk/Resource/Doc/344246/0114504.pdf

Do digital divides, "not spots" and "twilight zones" still exist?

The need for strategic Government intervention is underpinned by the patterns of private sector investment in rural Scotland, as illustrated in the following three maps (Figures 2, 3 and 4):

Figure 2:
Mobile Services Scotland 2011.

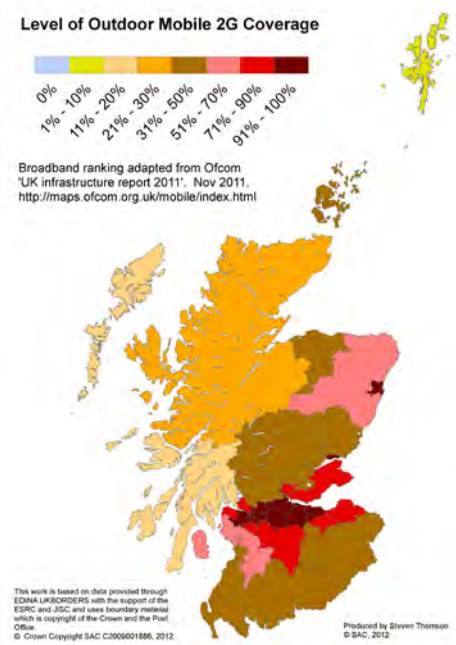


Figure 3:
Overall Fixed Broadband Scotland 2011.

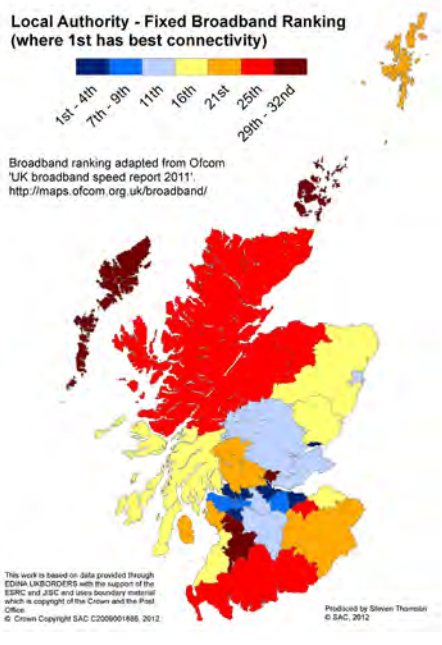
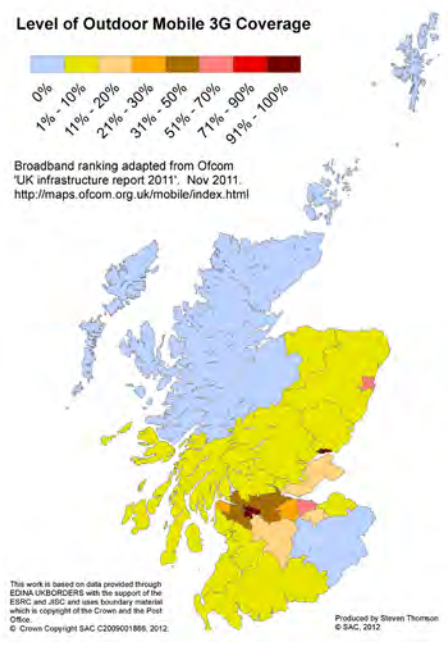
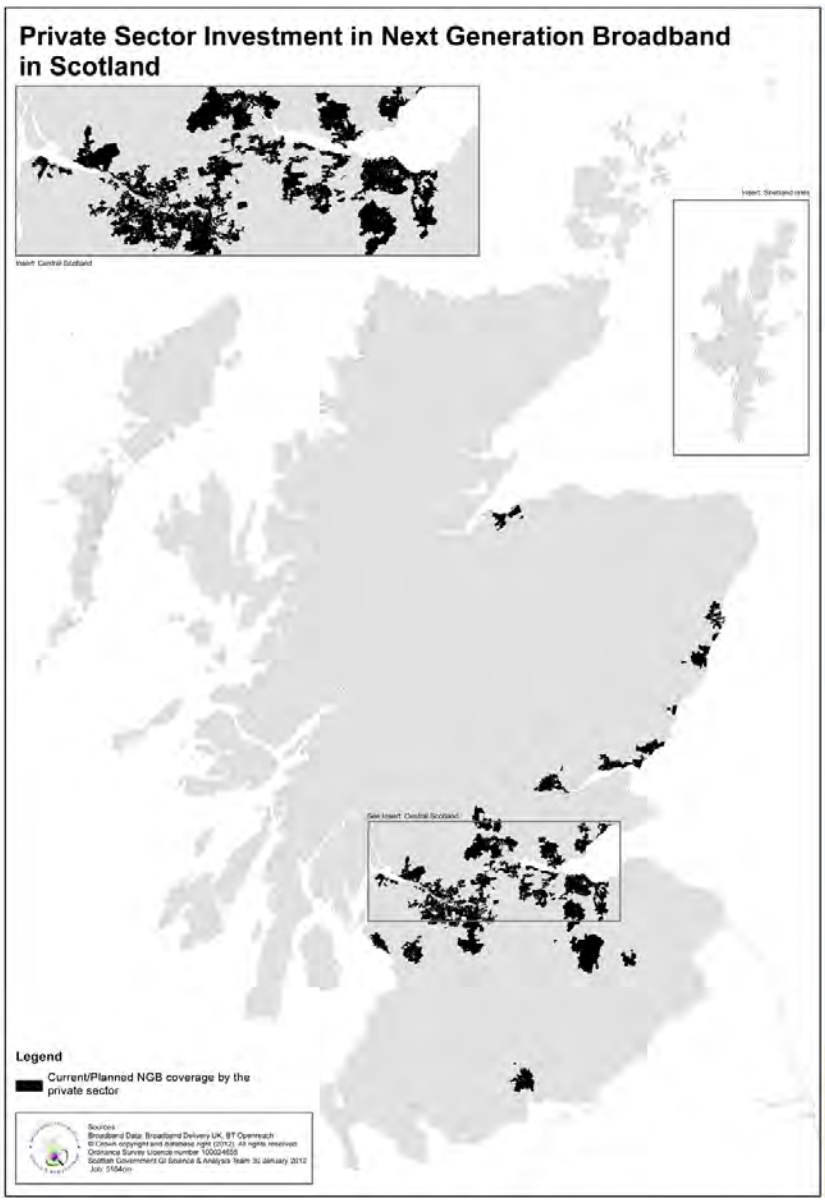


Figure 4:
Superfast broadband Scotland 2011.



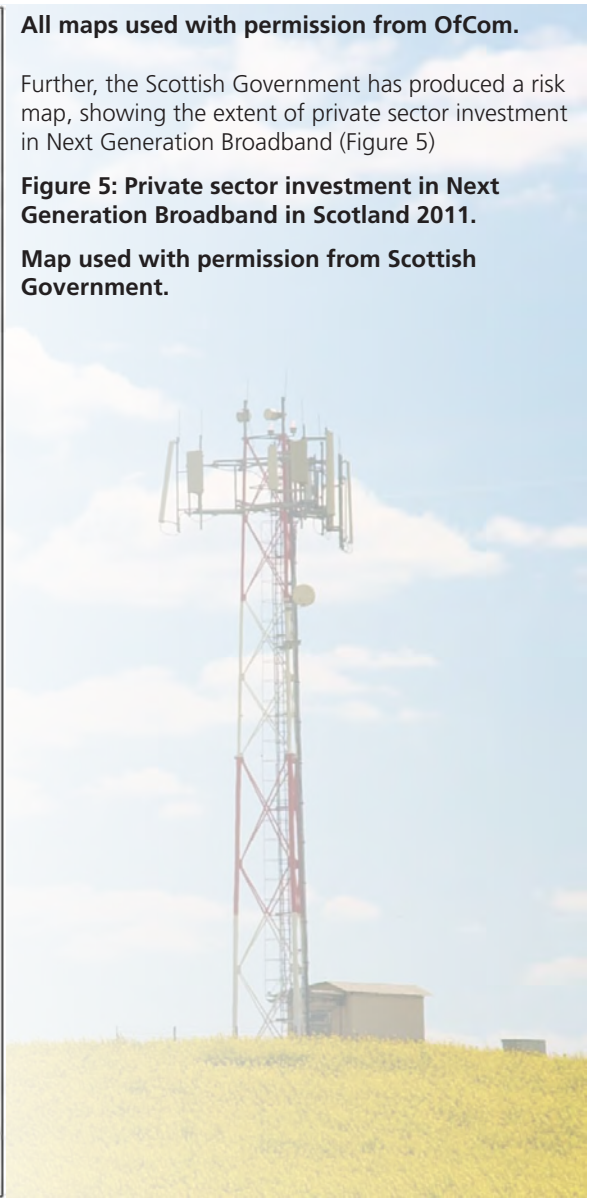


All maps used with permission from OfCom.

Further, the Scottish Government has produced a risk map, showing the extent of private sector investment in Next Generation Broadband (Figure 5)

Figure 5: Private sector investment in Next Generation Broadband in Scotland 2011.

Map used with permission from Scottish Government.



Examples of recent reviews, commentaries and reports from outwith Government

That rural-urban digital divides still exist is also highlighted in recent (2010 and 2011) reports from outwith Government. The McLelland Review (2011) of *ICT Infrastructure in the Public Sector in Scotland*[82] states that the importance of broadband infrastructure is critical "in the next decade and beyond" and will be "as relevant to economic progress as roads and transportation including effective rail and air links" (p.20), and notes specifically the "growing concern that rural and remote locations often have poor broadband service (broadband speeds in rural areas being less than half of that in urban areas)" (p.20)[83]. Such observations are reflected in Reform Scotland's 2010 Digital Power[84] publication and the Consumer Focus (2011) Report, *Scotland's Digital Needs*[85] which highlights "chronic weaknesses in the rural digital infrastructure" (p.10).

The rural digital deficit is also echoed in publications from the Royal Society of Edinburgh. These include: *Digital Scotland* Report (October 2010)[86]; *Ambition for Digital Scotland*[87] (April 2011); Advice Paper *Broadband Infrastructure in Scotland: A Response to the Scottish Parliament's Infrastructure and Capital Investment Committee*[88] (November 2011); and a Briefing Paper[89] for the *Scottish Parliament Debate: Scotland's Next Generation Broadband Infrastructure Plan* (February 2012). In exploring rural broadband provision, RSE's *Digital Scotland* Report identifies "geographical exclusion" (p.30) stating that:

"Many of … those living in remote and rural communities are unable to take advantage of the new economy and the new society made possible by digital communication… Remote and peripheral rural regions comprise a large part of the territory of Scotland... Digital communication can help to improve communications within scattered populations and between them and the outside world" (p.5 and p.30).

The authors identify the need for improved backhaul for Scotland, and propose a fibre network with costing and maps showing the overall effect of a five-year programme of investment (p.55-56). In their pre-Election statement, RSE again highlight the need for fit-for-purpose backhaul, emphasising that where high speed broadband has been deployed it has demonstrated its transformative power. In their November 2011 Advice Paper, the RSE restate the need for long-term infrastructure investment in a "pervasive and accessible" open-access core fibre network to reach every community in Scotland.

In Focus: A digital twilight zone…

Soirbheas – bringing power into the hands of Glen Urquhart and Strathglass

Soirbheas Ltd is the community charity for Glen Urquhart and Strathglass established to work in partnership with Corrimony Energy Ltd, a company owned by a local family who also own the land where the wind-farm will be sited. The intention is that Soirbheas will manage the community portion of money received from the 5 turbine wind-farm that is due to be built during 2012.

Soirbheas wishes to ensure that the natural environment of the area is sustained for future generations and that all inhabitants, regardless of age and ability, can continue to enjoy living in a resilient, supported and sustainable community. This will be done either by funding other groups in the area or undertaking projects direct. Based on community consultation, the charity's objectives are to:

1. Improve the energy efficiency of housing within the communities to reduce fuel poverty
2. strengthen the local economy by encouraging growth and new businesses to set up e.g. by improving broadband availability and reliability, encouraging people to shop locally and creating opportunities for young people, reducing the need for them to leave the area to find employment.
3. Making the region greener (to protect the environment for future generations as the area is one of renowned natural beauty) by increasing the number of people aware of the effects of climate change and actively engaged in activities to limit this and develop green tourism.
4. Improving the quality of life for existing residents focusing initially on providing services that enable elderly people to live longer in their own homes

There is a combined population of around 2,500 and the areas within the two communities are classified as "accessible rural", "remote rural" and "very remote rural". Whilst relatively close to Inverness (35 miles from Tomich), the area does suffer from limited infrastructure e.g. no or poor mobile phone signal in many areas, poor or no broadband availability and limited bus services.

Tanya Castell, Director and Chair, www.soirbheas.org

5.4. Rural communities: generating and servicing local demand

The maps of mobile and fixed broadband distribution (above) give a very stark representation of rural-urban digital divides in Scotland, and are also supportive of the claim that areas with fast broadband and mobile coverage are getting faster, due primarily to private sector interest. Given these distributions of investment in next generation broadband and in fixed and mobile broadband, communities

[82] http://www.scotland.gov.uk/Resource/Doc/351231/0117794.pdf
[83] See Scottish Government's response at: SG Response: http://www.scotland.gov.uk/Publications/2011/09/21103403/12
[84] http://reformscotland.com/public/publications/Digital_Power.pdf , see especially pp.17-19.
[85] http://www.consumerfocus.org.uk/scotland/files/2011/09/Scotlands-digital-needs.pdf
[86] http://www.rse.org.uk/cms/files/advice-papers/inquiry/digitalscotland/Digital%20Scotland%20%28med%20res%29.pdf
[87] http://www.rse.org.uk/cms/files/advice-papers/inquiry/digitalscotland/Ambition_for_a_Digital_Scotland_Apri_11.pdf
[88] http://www.rse.org.uk/cms/files/advice-papers/2011/ad11_15.pdf
[89] http://www.rse.org.uk/cms/files/advice-papers/2012/BP12_01.pdf

have been taking provision into their own hands. We now move on to examine some of these community initiatives, some of which take place in "not spots" and some in what we have termed "twilight zones" where, according to maps and classifications, rural areas may be termed "accessible" and be expected to have high-speed broadband connectivity. However, their experience is far more limited (see In Focus blue box from Soirbheas Ltd).

Rural communities have been identifying need and demand, in some cases *generating* that demand, and then servicing that demand with a more affordable service. This generation of demand element is particularly critical, since we can see the underserving of rural areas by the private sector, the stated rationale of telecommunications companies being that lack of demand leads to low returns on infrastructural investment[90].

The following two Tables of community broadband initiatives are neither intended to be exhaustive nor listed in order of merit, and we are not seeking to evaluate these initiatives and actions. Rather, they are intended simply as illustrations of the type of community activity undertaken in order to secure local broadband provision. In the following Tables, we have identified the impetus that led to the community setting up the broadband facility, and the community's aim in securing local broadband provision.

From these examples, it is possible to identify the **main drivers for rural communities in setting up their own broadband initiatives**. The focus has been primarily on finding a viable solution for unreliable, slow and/or expensive current broadband access. These issues derive from a multitude of causes, including distance from the exchange, weak backhaul, and lack of market intervention. In a few examples, the commercial sector was not believed to be able to fill this void, even with the BDUK funding, due to the lack of market profitability and therefore these community groups formed to address the issues themselves. Groups that had mobilised to initiate broadband development who were without prior access at all were primarily motivated due to limited market options through distance or lack of backhaul. Communities have identified these issues as hindering not only personal access to the world wide web, but also inhibiting economic development and competitiveness in rural regions. They report this as reducing the sustainability and viability of rural economies, and dramatically influencing rural life.

The communities' aims of their projects include providing the communities with high-speed internet access, often through wireless options due to expense of cabling, with the focus being on obtaining affordable, good quality options. Some projects were incredibly specific, focusing on key issues experienced in their rural area, for example distance from exchange, or lack of backhaul in order to improve internet quality. The enhanced speed and service of internet which will be achieved is believed to have a positive social and educational benefit to communities, although broadly economic benefit was highlighted as a key priority across many of the initiatives.

Table 1: Community broadband projects

Project	Impetus	Aims
Angus Glen Broadband Cooperative Ltd (Fibre Optic Cable)	The Angus Glen region is considered to be part of the Final Third region, currently lacking adequate broadband, and unlikely to benefit from government rollout of broadband through programmes such as the BDUK initiative.	This project will be for all residents, and will use fibre to the home (FTTH) technology, ensuring all connections will be future-proof to be able to use internet for general access, online shopping, banking and booking holidays and travel
Eigg and the Small Isles Broadband (wireless)	Lack of fast, affordable, broadband (coupled with the lack of backhaul options) was seen to inhibit the rural economy	This project intends to create basic, cheaper broadband at 8Mb/s rates and be accessible to all at affordable prices, enabling economic change and development throughout the isles.
Hebrides Broadband Project (wireless/fibre)	Lack of broadband was viewed as the single biggest challenge for economic development	This project is delivering an innovative high performance broadband wireless network across the six main populated islands of Lewis, Harris, North Uist, Benbecula, South Uist and Barra
Knoydart Foundation Community Broadband Access (wireless)	Internet was identified as particularly important for local business opportunities and children's access to educational resources, where the nearest shop or school may be several miles away.	Building on the successful Tegola research project the aim is to establish a community-run company providing high-speed internet access to this remote and sparsely populated area. Working with the Highland Council, the plan is to integrate access to the recently launched Pathfinder service with wide area wireless network distribution to provide fast and reliable internet access
Shetland Community Broadband Project (wireless)	This project began to test the feasibility of wireless options to obtain faster speeds of 2Mb/s compared to the already available 0.5Mb/s.	The community wireless project is a pilot project, testing the delivery of a minimum 2Mb/s symmetric broadband service, using wireless technology, to approximately 100 paying customers in Vidlin and Fetlar.
Shetland Islands Council: Superfast Cabling Project (Fibre optic)	The Shetland Islands Council deemed this project necessary as existing services and service providers are not capable of providing the services that the communities and businesses need to satisfy any future needs	This project is run through Shetland Telecom, a public sector-backed company set up by the Shetland Islands Council to develop better telecom services in Shetland, connecting Lerwick to the Faroese fibre optic cable that crosses Shetland between Maywick and Sandwick. The cable will then be able to be used by various companies to offer superfast speeds to their customers with a suitable source of backhaul via the Faroese cable.
Tegola Project (wireless)	This project began through the recognition that broadband, and internet access in general, are wildly important for rural areas, that are physically distant from resources such as educational institutions and retailers and hoped to test novel methods for generating affordable, fast, broadband	The Tegola project utilises innovative, new technologies, bypassing the limited cabling technology, to provide remote communities with cheap and high-speed broadband wireless access
Tiree Community Broadband (wireless)		This project works to deliver broadband access to the people of Tiree through a wireless network linked to a multi-feed ADSL backhaul. Prices are comparable to market broadband providers and any surplus is reinvested.

[90] See Skerratt (2010) - see Footnote 33

Table 2: Community broadband projects in receipt of LEADER funds including through the Broadband Challenge Fund

Project	Impetus	Aims
Arbuthnott Community Broadband (wireless)	Arbuthnott has experienced long-term problems with obtaining adequate broadband	The project aims to provide 38 homes and business within the Parish of Arbuthnott with improved broadband access. The project hopes to also have a social benefit to the community through having enhanced capacity
Ballogie Community Broadband (cable)	Broadband in the area is currently very slow and unreliable, and in some instances unavailable due to the distance from the telephone exchange	The project aims to enable access to broadband for all businesses and residents within the communities of Ballogie & Birse who wish to take up the Broadband Enabling Technology service
Kinmuck Area Broadband (wireless)	Current offerings in the area are slow, unreliable and expensive with little access to backhaul	The project hopes to help support a more sustainable future for the Community and deliver many very tangible benefits to the Community, including economic development. The wireless will be used by residents and businesses alike
Forth Valley and Lomond LEADER Local Action Group Broadband (Pilot WI-MAX wireless broadband)	Current offerings (if available) are unreliable or slow connection speeds severely hindering economic activity	This project will cover the communities of Tillicoultry, Alva East, Alloa West, Bandeath, Throsk, South Alloa, Cambusbarron and parts of rural south west Stirling, hoping to create accessible broadband of between 2Mbit/s to 20Mbit/s, accessible by both business and homeowners
HopScotch Good Broadband Cooperative Ltd (wireless)	Both Tiree and the south end of Bute have some form of broadband access although there remains significant areas uncovered with connectivity issues including slow connections and unreliability	The HopScotch Cooperative has been set up to integrate a formal Cooperative structure for communities to collectively procure, access and manage, sustainable and extendable wireless broadband connections and share best practice between members and communities. This hopes to set up sustainable and fit for environment high speed wireless internet connections in households and small businesses
Outer Hebrides LEADER Local Action Group Broadband (Combination)	Broadband is currently not available in these areas	The aim of this project is to kickstart projects in the villages of Tolsta and Dalmore on the Isle of Lewis, Tolmachan and Huisinis on the Isle of Harris and Grimsay on North Uist. This will be done through providing broadband relay sites to connect to existing networks, and laying fibre optic cable, as well as providing the communities with technical support and maintenance accompanying the implementation of broadband. This hopes to connect businesses and residents who were lacking options
Scottish Borders LEADER Local Action Group Broadband (wireless)	Lack of broadband is seen to inhibit the competitiveness of the local economy	This project aims to provide households and businesses in Cardone, Whitsome, Upper Ettrick, Cranshawa, Ellemford and Longformacus with a reliable, high-speed broadband connection to enable business development, work, online shopping, access services or other information. It is hoped to have an impact on the attractiveness of the region as well
South Lanarkshire LEADER Local Action Group Broadband (Cable)	The region currently has no broadband provision due to the cabling travelling too far from the exchange to provide adequate, if any, service	This project aims to install a feeder exchange to reduce the distance the copper cabling and provide households and businesses alike around Gilkerscleugh and Crawfordjohn with a reliable broadband connection. It is hoped that this project will allow young people to access new learning opportunities online and give 5 small businesses that operate from the area a chance to improve their services and business opportunities through better communication, hoping to improve residents' quality of life, access to services and business opportunities
Shetland Islands Council LEADER Broadband (wireless)	Lack of 'backhaul' has led to decreased bandwidth and unsatisfactory broadband availability	This project is a pilot project to establish Next Generation broadband of up to 25MB connection speed through the building of a backhaul network between Fetlar and Lerwick
Boyndie Broadband Service (Broadband Enabling Technology)	Since the closure of the Boyndie telephone exchange, internet connectivity remains poor for local residents, and community-wide consultation identified a need for improved broadband	The project is intended to enable improved and reliable broadband speeds for local businesses and households in the Boyndie area that opt to take part. The technology being used is the Broadband Enabling Technology

5.5. Accelerating future-oriented investments for all of rural Scotland

Summary of key points

We have outlined the **value and outcomes of broadband-enabled internet applications** for individuals, communities and businesses in rural Scotland. **Demand for broadband clearly exists**: this is evident across rural Scotland (as seen in the Consultation Responses to *Speak up for Rural Scotland*), and in examples of where communities have harnessed demand and ensured provision. In the past 12 years in particular, there has been a combination of piecemeal, **community-level "hot spots**" as well as **strategic investment by Scottish Government** (and now UK Government through BDUK), **private and public sectors. Digital divides, "not spots" and "twilight zones" still persist** however, due primarily to **market failure**. This leads to an ongoing imperative of addressing "**geographic exclusion**", since: "ignoring the poor quality of service to business and residential communities in many

rural areas is a **serious derogation of social responsibility** and will create a **society of unequal opportunity**" (p.9)[91]. The debate[92] surrounding digital inequality now includes inequities in access to landline-based technologies, cable/broadband connections, and wireless (p.170). What is now indisputable is that **internet access is clearly instrumental in achieving aspects of life that are universally regarded as rights**, such as freedom of speech and information, employment, healthcare[93] and education[94]. It is important in maintaining and increasing individuals' involvement in civic society and their community, in their access to public services, and in maintaining and expanding business opportunity. Availability, access and use of broadband-enabled applications are all enablers to reaching greater societal outcomes of inclusion, participation and productivity. Further, **Scotland's National Outcomes** (of the National Performance Framework) would be better served by a robust national and local next generation broadband network, hence organisations such as Reform Scotland write of **broadband as "digital power**".

Where next?

As we saw in Figure 1, there has been a growing strategic impetus in Scottish Government-engendered or supported infrastructural investment for broadband across Scotland since 1999, and plans continue for further investment. The fact that rural-urban divides persist means that further, complementary innovative approaches remain essential. These can be based on existing examples and include:

- Enhanced and consistent collaboration between **academics and industry**, as is already occurring in dot.rural on a UK-wide basis (www.dotrural.ac.uk). This is already generating cross-fertilised ideas, solutions, creating opportunities to test and apply specific technologies for particular rural challenges, and is already generating evidence and lessons for future deployment. Another innovative example is the **Tegola Project**[95], where Edinburgh University have partnered with communities on Scotland's West Coast[96] to deliver workable, affordable broadband. This initiative has subsequently been applied in Eigg, through a partnership between the **Phone Co-Op** and the **Isle of Eigg Heritage Trust**[97].
- Greater genuine collaboration between **communities and both the private and public sectors**. This has taken place in a few instances of community-led projects. The Scottish Government has highlighted the importance of in-community and community-led initiatives, in **testing alternative technologies and business models** and for **increasing participation**[98]. Further, in its Action Plan (January 2012), the Government outlines how a number of key principles are to frame the approach, including to: "promote rural and community benefits, by supporting local projects and through contractual arrangements including education and improved technology" (p.10). Could communities follow the business model of **Cybermoor**[99] where the community's experience and knowledge gained from installing and operating wireless broadband and community websites is now being used by the community as a commercial vehicle ensuring that other communities benefit? Cybermoor is also a funded partner in European projects, providing experience, test-beds and data, thus enhancing their own sustainability. There is scope for such marketing of community knowledge in rural Scotland, given the cumulative experience gained over many years.
- **Increased testing of technological fixes by the private sector**, including in co-operation with the public sector; examples include the potential use of "White Space" (parts of the spectrum no longer needed due to the switch to digital television) on the Isle of Bute[100]; and exploring the potential to use other infrastructural ducts and channels (as trialled in the Republic of Ireland) for passing through fibre optic cable.
- **Enhanced systematic learning from multiple pilot projects**. For example in **Scotland's Digital Future: Infrastructure Action Plan (January 2012)**, projects taking place in Highlands and Islands and in Aberdeenshire serve to illustrate the "specific geographical and technological challenges of delivering next generation broadband in extremely remote and rural areas" and in Aberdeenshire, the potential for using "mix of technologies and the utilisation of Aberdeenshire Council network…"(p.14). There needs to be coherent and systematic evidence-gathering from these pilots (and other projects such as those funded through LEADER) so that deliberate pooling of experience and overcoming of challenges can take place efficiently across sectors and locations.
- **"Bigger thinking", that brings together parallel infrastructural investments.** For example, should there be an encouragement (or even imperative) on developers of wind turbines (onshore, and where offshore connections make landfall) to include development of a small number of mobile phone masts in the same community area, to enhance access to mobile broadband? Given the sustainability and low carbon objectives of wind turbines, should developments be more comprehensive in their reach, by making digital technology available to help reduce communities' carbon footprint?

Combining strategic, Government-led plans and investment with innovations and investment from rural communities, academics, private sector and public sector is all the more essential in these times of efficiency budgeting. The impetus is strong, given that the value, benefits and demand are now so clearly evident. The impetus is stronger, since next generation broadband availability, access and use are all enablers in reaching Scotland's National Outcomes, most particularly: strong and resilient communities; Scotland as the most attractive place to do business; enhanced skills, education and innovation; a means to tackle significant inequalities in Scottish society; and the improvement and accessibility of public services. These outcomes can also be perceived as "rights" for Scotland's citizens, irrespective of location – and the role for next generation broadband in supporting the delivery of these rights is indisputable.

[91] Reform Scotland (2010), Digital Power: http://reformscotland.com/public/publications/Digital_Power.pdf
[92] Stern, M.J., Alison E. Adams, A.E., and Jeffrey Boase, J. (2011), "Rural Community Participation, Social Networks, and Broadband Use: Examples from Localized and National Survey Data", Agricultural and Resource Economics Review 40/2 pp. 158-171.
[93] Point 65, page 11 of Royal Society of Edinburgh's (2010) Digital Scotland Report: http://www.rse.org.uk/cms/files/advice-papers/inquiry/digitalscotland/Digital%20Scotland%20%28med%20res%29.pdf
[94] See Professor Frank Rennie's contribution to this section on broadband as a democratic imperative.
[95] See http://www.tegola.org.uk/wiki/index.php/Main_Page
[96] http://www.knoydart-foundation.com/our-work/projects/community-broadband-access/
[97] http://www.thephone.coop/eigg
[98] Scottish Government (2011) Scotland's Digital Future: A Strategy for Scotland, p.39.
[99] http://www.cybermoor.org/
[100] http://www.bbc.co.uk/news/technology-17522051

Glossary of Broadband-Related Terms

2G Coverage	Second generation of mobile telephony. Uses a mobile phone signal to deliver voice and slow data services (including SMS text). Upper range 2G services can provide data rates of up to 236.8 Kbit/s[1]
3G Coverage	Third generation of mobile telephony. Uses a mobile phone signal and can deliver up to 7 to 8 Mbit/s. Broadly speaking, 3G coverage is poor outside of the Central Belt and Scottish cities[1,2]
4G Coverage	Fourth generation of mobile telephony, which use a new standard called LTE – Long Term Evolution. It is currently undergoing trials in the UK and is likely expected to have speeds of up to 100Mbit/s[1,3]
ADSL Technology (Asymmetric Digital Subscriber Line broadband)	Internet connection run over home telephone lines (copper cable lines). Often run by BT (or a secondary provider using BT lines), fastest it can support is 8Mbit/s. Limited connectivity exists on this type of technology the further you are away from the exchange[2,4]
ADSL2+ Technology (Asymmetric Digital Subscriber Line broadband)	Internet connection run over home telephone lines (copper cable lines). Run by BT, can generally deliver up to 24Mbit/s
Average Modem sync speed	The average maximum speeds of the existing broadband connections. More specifically, the speed at which the modem communicates with the exchange as opposed to the speed of the data transfer, which is known as bandwidth speed[4]
Backhaul	The connection from the local sub-network to the internet core network. Lack of backhaul results in no connection to the internet[5]
Bandwidth	The maximum speed of data transfer across an internet connection, differing from the sync speed. Expressed in bits/second or multiples of it (kilobits/s, megabits/s etcetera (For example 25Mbit/s)
Broadband	A term used broadly to describe internet that is always on, high-speed, and is significantly faster than earlier dial-up technology. It can be delivered through telephone, cable or wireless and satellite connections. The potential access speed of broadband services is broadly considered to be at or above 512Kbit/s[3,4]
Broadband Enabling Technology (BET)	Fixed line solution to obtaining broadband in rural areas. As most internet connections diminish and get slower the further away it gets from the telephone exchange, BET bonds telephone lines together to allow the connection to travel further distances and maintain higher speeds of approximately 1Mbit/s to 2Mbit/s[6]
Broadband Take-up	The number of existing broadband connections as a proportion of residential and non-residential addresses[4]
Cloud Computing	This is a location-independent computing model for enabling convenient, on demand access ("through the cloud") to a shared pool of resources (documents, applications, services etcetera) by storing it on remote servers, accessible over the internet[1]
Dial-up Internet Access	Access that uses public switched telephone network (PSTN) to establish a connection to an internet service provider via a normal telephone line. Typically understood to reach up to 56kbit/s speed. Main difference from broadband, besides speed, is that the normal telephone cannot be used while connected to the internet.
Fibre Optic Cable Broadband	Broadband services provided through flexible, thin glass pipes called fibre optic cables using waves of light. Generally regarded as the successor to traditional copper cabling, it can deliver higher speeds over longer distances without the loss seen in traditional metal cables. Speeds can be up to 100Mbit/s [1,2,3]
Mobile Broadband	Broadband internet delivered through mobile carriers to a portable modem such as mobiles, tablets or other device. Speeds are typically less than fixed broadband services[1,3]
Mobile Not Spot	Areas where there is no mobile coverage as reported from the latest OFCOM report[3]
Next Generation Broadband	High speed broadband that exceeds the capabilities of copper-based (or similar) broadband infrastructure. Speeds will vary depending on the technology used (satellite, fibre, wireless etcetera) While the UK has no target speed for Next Generation, the European Commission's Digital Agenda sets 30Mbit/s as a minimum target[1]
Not spot	A geographic post-code area where customers do not have access to fixed line or wireless broadband[3]
Satellite Broadband	Broadband services delivered though a satellite in orbit around the earth that communicates with a computer or host of computers through a satellite dish on the premises[1]
Slow Spot	A geographic postcode area where customers have access to fixed line or wireless broadband at access speeds below 2Mbit/s[3]
Superfast Availability	The percentage of addresses which are within the coverage area of superfast broadband networks[4]
Superfast Broadband Services	Broadband services that are run at over 24Mbit/s with no upper limit[3,4]
Whitespace	Space freed up by the switch from analogue to digital TV
Wi-Fi	Stands for Wireless-Fidelity, and is short-range wireless technology that enables home computers, tablets or other devices to communicate and access the internet when in range of the wireless network currently connected to the internet. Wi-Fi networks are often used in areas where wires or cabling would be difficult to install due to terrain and other issues[1]
Wireless Broadband	Broadband services delivered through radio waves, usually via Wi-Fi network access points, however some companies use other technologies[1]

Sources of definitions for Glossary.

[1] The Scottish Government. (2011). Scotland's digital future: A strategy for Scotland. Edinburgh: The Scottish Government. See: http://www.scotland.gov.uk/Publications/2011/03/04162416/0

[2] uSwitch (2011) Broadband. Retrieved from: http://www.uswitch.com/broadband/guides/

[3] Department for Culture, Media and Sport (2011). Broadband delivery UK (BDUK) Programme: Glossary of Terms. Retrieved March 13, 2012 from: http://www.culture.gov.uk/what_we_do/telecommunications_and_online/8129.aspx

[4] OFCOM (2011). Communications infrastructure report 2011: Fixed broadband data. Retrieved from: http://maps.ofcom.org.uk/broadband/downloads/ofcom-uk-broadband-speed-report-2011.pdf

[5] Royal Society of Edinburgh (2010). Digital Scotland. Retrieved from: http://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/digitalscotland/Digital%20Scotland%20(med%20res).pdf

[6] BT Openreach (2010). Broadband Enabling Technology: Fact sheet. Retrieved from: http://www.openreach.co.uk/orpg/home/products/llu/broadbandenablingtechnology/bet/downloads/BET_factsheet%202010-11-08%20pm.pdf

6: What are the implications for rural Scotland of a low carbon future?

Clare Hall & Mike Woolvin

Key points

1. With the aim of becoming low carbon Scotland, the Scottish Government has set a number of targets, including to reduce Scotland's greenhouse gas emissions by 80% (from 1990 levels) by 2050.
2. Although demand for the energy from renewable energy developments will come from both urban and rural areas, there will be significant impacts, both positive and negative, specifically on rural areas, from these developments.
3. Per capita domestic CO_2 emissions are generally higher in rural local authorities than urban, and domestic properties in rural areas have worse energy efficiency ratings.
4. Per capita CO_2 emissions are generally higher for the transport sector in rural local authorities and there are higher rates of car ownership and use.
5. Having a larger proportion of properties that are off the gas grid network may present rural areas with greater potential for earlier up-take of micro-renewables and district heating systems.
6. Place based community initiatives present potential for addressing the low carbon household energy and transport agendas in rural areas but there are infrastructural challenges that will need to be addressed
7. The land use sector in rural Scotland has the capacity to sequester CO_2 through good practice in the management of soils, and through afforestation.
8. Challenges are presented in terms of securing the necessary behavioural changes.
9. Rural-specific targets for emissions, energy efficiency savings and implementation of practices, are recommended.

6.1 Introduction

In this section a thematic approach is taken to consider how moving towards a low carbon society across the whole of Scotland might offer opportunities and challenges that are specific to rural areas, and how the process of becoming a low(er) carbon rural society might be distinct from the process in urban areas. The themes considered are energy (renewable energy production and household energy consumption), transport, and land use (agriculture, forestry and soils). These themes are addressed as they represent areas where there is a particular 'rural story' to be told.

6.1.1 What is a low carbon society?

There is widespread agreement that the definition of a low carbon society is one that minimises the output of greenhouse gases (GHGs) (carbon dioxide (CO_2) and others) into the environment[1]. It is expected that a 'low carbon future' will only be achieved through a combination of decreased energy use, increased energy efficiency, and an increase in renewable, non-carbon sources of energy (electricity and heat) production. At the same time, the use of traditional and existing CO_2 emitting sources of energy production will either need to cease, or continue at a reduced rate and only with the development of processes of carbon capture and storage. More than this though, the path to a low carbon society has been described as being a transformation requiring economic, social, institutional, technological and individual changes as significant as those that brought about, or were brought about by, the industrial revolution[2]. Overall, the process of transition to a lower carbon society will have to involve fundamental changes to the way people currently live and work.

6.1.2 Why is Scotland aiming to become a low carbon society?

Rising levels of GHGs in the atmosphere are expected to have major negative impacts on human society globally through changes in the climate. At the same time there is a need to recognise that fossil fuels (coal, gas and oil) are a finite resource[3] thus other ways of producing energy will be required, alongside greater energy efficiency. As it is now largely accepted that climate change is human-induced there are international policies and targets for reducing the use of fossil fuels, and thus GHG emissions from human behaviour[4]. One of the primary tools is the United Nations Framework Convention on Climate Change (UNFCCC). This came into force on the 21st March 1994 and aims to stabilise GHGs in the atmosphere[5]. In the UK there is a requirement for an 80% reduction of CO_2 emissions (from 1990 levels) by 2050. The UNFCCC is supplemented by The Kyoto Protocol and commits countries to setting targets for the

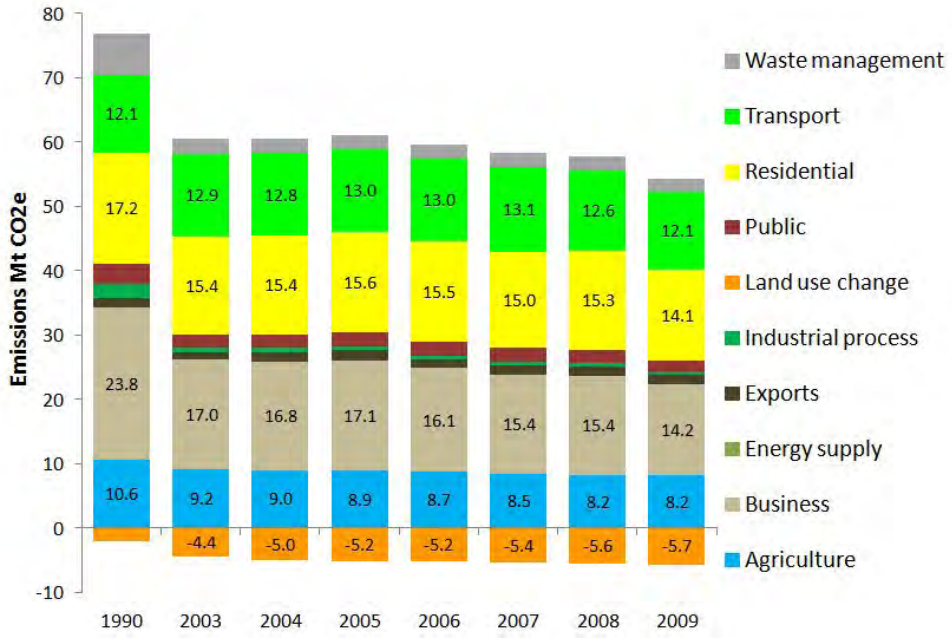
[1] Ian Marchant, Scottish & Southern Energy, as Chair of Scottish Climate Change Business Delivery Group in 2009; http://skills4lowcarboneconomy.co.uk/Project-Overview.aspx; Scottish Government, 2010. Low carbon Scotland: Public Engagement Strategy, Edinburgh; The Work Foundation, 2010. A 2020 Low Carbon Economy & A Knowledge Economy Programme. Report by Charles Levy; The UK Climate Change Committee.
[2] Scottish Government, 2010. Towards a Low Carbon Economy for Scotland: Discussion Paper. Scottish Government, Edinburgh
[3] Royal Society of Edinburgh, 2011. Facing up to climate change: breaking the barriers to a low carbon Scotland. Edinburgh
[4] Hodgson, M., 2010. Somerset local economic assessment. Low carbon economy briefing paper. http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Community/Economy%20and%20Europe/Policy%20theme%20-%20Low%20Carbon%20Economy.pdf
[5] Thomas et al, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment. http://uk-air.defra.gov.uk/reports/cat07/1109061103_DA_GHGI_report_2009_Main_text_Issue_1.pdf

reduction of their GHG emissions. Under the protocol, the UK is legally bound to reduce emissions of the 'basket of 6' GHGs by 12.5% against baseline emissions over the first commitment period (2008-2012).

6.1.3 Current 'high' carbon society

For some 200 years the UK has been a 'high carbon' society. Scotland has around 0.08% of the world's population but produces an estimated 0.2% of the world's GHG emissions[6]. In 2009, the country had an 8.6% share of total UK net GHG emissions[7], slightly more than the population percentage (8.3%). The energy supply sector accounted for 37.8% of total GHG emissions in Scotland in 2009. This sector includes emissions from power generation, refineries, coal mines, oil and gas extraction, and other energy industries. This though says nothing about who are the end users or consumers of this energy, and therefore little about where attention might most effectively be focussed if emissions are to be reduced. It is therefore more informative to report source of emissions by end user. Using this approach, Figure 1 shows that the sectors of business, residential and transport are the three highest producers of emissions, with agriculture being the fourth highest emitting sector in Scotland (in 2009).

Figure 1: Scotland end user GHG emissions: 1990, 2003-2009 in Mt CO_2e[8]

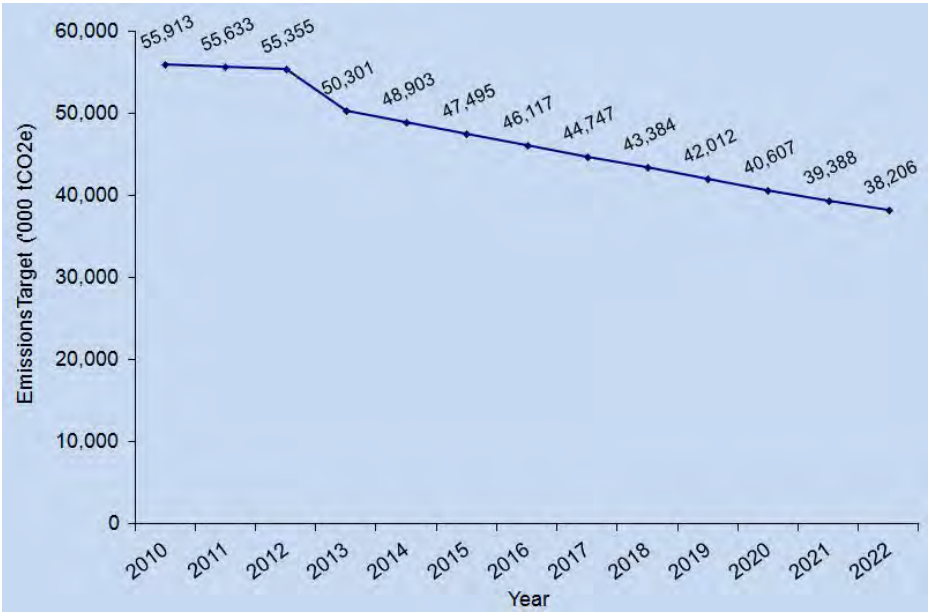


Source: Thomas *et al*, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment.

6.2 Policy context

The powers to implement measures to deliver reductions in emissions of GHGs across the UK are devolved to the Scottish Government, Welsh Assembly and the Northern Ireland Executive. As a result, each of the Devolved Administrations has established targets for reductions in GHG emissions[9]. The Scottish Parliament passed the Climate Change (Scotland) Act in June 2009[10]. The Act sets statutory targets to reduce Scotland's GHG emissions by at least 42% against the baseline by 2020. This is higher than the rest of the UK and is the Scottish Government's attempt to capture early business opportunities in the emerging low carbon industries. Scottish Ministers are required to set annual emissions targets for each year. Targets set for 2010 to 2022 are shown in Figure 2.

Figure 2: Scotland's annual targets for emissions (tCO_2e) ('000s)



Source: Royal Society Edinburgh, 2011

[6] Scottish Government, 2010. Climate Change in Scotland Annual Report 2009-10. The Scottish Government, Edinburgh.
[7] Thomas et al, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment.
[8] Metric tonnes of carbon dioxide equivalent includes emissions from the other 5 GHGs, namely Methane (CH_4); Nitrous oxide ($N2_O$); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs); Sulphur hexafluoride (SF_6)
[9] Thomas et al, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment
[10] Scottish Government, 2010. Climate Change in Scotland Annual Report 2009-10. The Scottish Government, Edinburgh: http://www.scotland.gov.uk/Resource/Doc/316728/0100859.pdf

The Scottish Government has produced a number of policy documents that between them present the components that will need to come together in order to achieve a low carbon future. The 'Low Carbon Economy Discussion Paper' published in 2010 consulted on the measures required to achieve Scotland's emission reduction targets and generated the framework upon which the Low Carbon Economic Strategy was built[11]. The Low Carbon Economic Strategy[12] that followed, stated that a low carbon future would be one where energy is both generated less carbon-intensively and used more efficiently; it emphasised that households needed to be able to generate energy for their own use; that the energy efficiency of old and new buildings would have to be transformed; and that there would need to be new forms of individual and public transport, utilising electric vehicles and low carbon fuels. In the Low Carbon Economic Strategy document it is stressed that the move to a low carbon economy will be characterised by the development of low carbon goods, processes and services. Crucially, in addition to the Low Carbon Economic Strategy document itself, the government's overall Economic Strategy[13] added a new strategic priority in 2011, namely ' Transition to a Low Carbon Economy'. Beyond these low carbon economy documents, the 'Public Engagement Strategy[14]' recognises that a low carbon future cannot be achieved by Government alone but will rely on involvement of the private, public and third sectors, as well as communities and individuals. The strategy stresses the importance of engagement and raising awareness, and of informing people so as to give them the knowledge needed to make different decisions about their carbon behaviours and thus help transition to a low carbon society.

In addition, the Scottish Government has established four sector-specific goals in order to achieve the GHG emissions reductions. These are:

- A *largely de-carbonised* electricity generation sector by 2030, primarily using renewable sources for electricity generation with other electricity generation from fossil fuelled plants utilising carbon capture and storage
- A *largely de-carbonised* heat sector by 2050 with significant progress by 2030 through a combination of reduced demand and energy efficiency, together with a massive increase in the use of renewable or low carbon heating
- *Almost complete decarbonisation* of road transport by 2050 with significant progress by 2030 through wholesale adoption of electric cars and vans
- *Significant decarbonisation* of rail by 2050[15].

While these are descriptive terms ("largely; almost complete; significant"), the Scottish Government is committed to meeting at least 30% of all energy demand (for heating, transport and electricity) through renewable energy sources by 2020. The targets are to generate 11% of heat production, 10% of transport fuel use, and the equivalent of 100% of Scotland's own electricity demand, from renewable sources by 2020. To put this in context, in 2010 1.4% of heat energy demand in Scotland was met from renewable sources[16]. The Climate Change Delivery Plan[17] suggests that achieving the 2020 target of "almost complete decarbonisation of road transport", will require a 27% reduction in total emissions from transport. Other 2020 targets for transport include having a mature market for low carbon cars, having an electric vehicle charging infrastructure (in cities), and for at least 10% of all journeys to be made by bicycle. There is also a target of having 500 MW of community and locally-owned renewable energy by 2020[18]. In addition, the Energy Efficiency Action Plan[19] established a target to reduce total final energy demand in Scotland by 12% by 2020, covering all fuels and sectors. These targets will require substantial public (and private) funding in order to help facilitate the required changes.

In Focus: Funding a low carbon future

There are a multitude of funding streams and schemes to help businesses, communities, local authorities and householders make the required changes to meet the targets set by government. • Generators of electricity from eligible renewable sources are awarded Renewable Obligations Certificates (ROCs) for every megawatt hour they generate. In June 2009 the Scottish Government introduced the UK's most generous support for commercially deployed marine (wave and tidal) renewable energy projects. • In the February 2010 Scottish Budget Bill funding was announced for area-based home insulation schemes to be increased from £15million to £25million, including £10 million for a new universal access scheme offering free insulation to around 90,000 homes. • The Climate Challenge Fund gives direct support to communities to implement actions to reduce their carbon emissions and had a total resource of £27.4 million over the three years 2008-11. From 2008, 345 communities across Scotland received awards through CCF . • The Carbon Emissions Reduction Target (CERT) requires domestic energy suppliers to make savings in the amount of CO_2 emitted by their customers. Suppliers meet this target by promoting the uptake of energy efficiency and low carbon solutions to households. • Community Energy Saving Programme (CESP) is another obligation on energy suppliers and electricity generators. It targets low income households to improve energy efficiency standards and reduce fuel bills . • From 2013 The Green Deal and The Energy Company Obligation (ECO) will replace CERT and CESP. • As for transport, the 'Low Carbon Vehicle Procurement Support Scheme' makes grant funding available to Community Planning Partnerships to support the uptake of low carbon technologies in the public sector fleet. • The Future Transport Fund will provide funding for: i) development of electric vehicle charging infrastructure; ii) developing walking and cycling infrastructure (with Sustrans and local authorities); iii) a third round of the Scottish Green Bus Fund; and iv) the continuation of the Freight Facilities Grant. These are just some of the examples of funds and initiatives aiming to facilitate a low carbon future.

[11] Scottish Government, 2010. Towards a Low Carbon Economy for Scotland: Discussion Paper. Scottish Government, Edinburgh. http://www.scotland.gov.uk/Resource/Doc/307022/0096528.pdf

[12] Scottish Government, 2010. A Low Carbon Economic Strategy for Scotland. Scottish Government, Edinburgh. http://www.scotland.gov.uk/Resource/Doc/331364/0107855.pdf

[13] Scottish Goverment, 2011. The Government Economic Strategy, Scottish Government, Edinburgh

[14] Scottish Government, 2010. Low Carbon Scotland: Public Engagement Strategy. Scottish Government, Edinburgh. http://www.scotland.gov.uk/Resource/Doc/336432/0110100.pdf

[15] Scottish Government, 2009. Climate change delivery plan: Meeting Scotland's statutory climate change targets. Scottish Government, Edinburgh

[16] Scottish Government. Renewable heat action plan for Scotland. Scottish Government, Edinburgh

[17] Scottish Government, 2009. Climate change delivery plan: Meeting Scotland's statutory climate change targets. Scottish Government, Edinburgh

[18] Scottish Government, 2011. 2020 Routemap for Renewable Energy in Scotland. Scottish Government, Edinburgh. http://www.scotland.gov.uk/Resource/Doc/917/0118802.pdf

[19] Scottish Government, 2010. Conserve and Save: Energy Efficiency Action Plan. Scottish Government, Edinburgh

6.3 The potential for rural areas of a move to a lower carbon society

Very little consideration has been given to what a low carbon future might mean for rural areas of Scotland. However, a number of key publications focussing on areas in the north[20], [21] and south west[22] of England have considered the low carbon potential of several rural areas and drawn conclusions about the sectors presenting possible opportunities and challenges for the areas. Many of these are also likely to be applicable to rural Scotland and are presented here.

- On and off-shore renewables – job creation, inward investment, export opportunities and new revenue streams, but challenges relating to skills development and availability, environmental impacts and social concerns.
- Construction - opportunities within the industry for installing renewable energy and insulation products, developing low and zero carbon construction projects, but issues around the need for upskilling the rural workforce and demand for low carbon options from householders and other building users.
- Low carbon transport - opportunities for innovative local solutions for residents and visitors, but significant challenges relating to infrastructure, technology, and behavioural change.
- Digital infrastructure - potential to enable a rural low carbon knowledge economy, reducing transport demand.
- Community hubs and rural workspace - in collaboration with the above, potential to reduce transport demand, utilise zero and low carbon construction materials and technologies, and support local economic development, but behavioural change challenges.
- Agricultural diversification – opportunities including anaerobic digestion; biofuels and biorefineries; biomass and afforestation but challenges around competing land uses and uptake of new technologies.
- Food - competitive advantage of carbon footprinting of food products, but demand for 'low carbon' food needs to expand.
- Eco-tourism - opportunities for micro-enterprises in rural areas to reduce their carbon footprint as part of 'green marketing' but challenge of encouraging potential visitors to demand eco-friendly destinations and tourist experiences.

6.4 Renewable energy production in Scotland

As noted in Section 6.3, one of the major areas of potential for rural areas, of a drive towards a lower carbon future, is that of on- and off-shore renewables. While many of the energy generation development projects in Scotland are driven by the energy demands of both urban and rural communities, there are likely to be significant implications for *rural* Scotland in particular, arising from the increase in renewable energy installations. As noted above, the Scottish Government has set significant targets for levels of renewable energy production. As of 2010 there were over 1200 individual sites generating electricity from renewable sources, between them generating 9515.3GW/h. As of 2010, hydro-electric and onshore wind power were the main sources of renewable energy supplies, but the expectation is that as other technologies become commercially viable these will increasingly be part of a wider 'renewables mix' including biomass, solar, energy from waste and landfill gas, and off-shore wind, wave and tidal power generation[23].

In 'The Routemap for Renewable Energy in Scotland 2011[24]' there are claims that over the decade to 2020, renewable energy production in Scotland could provide up to 40,000 jobs and £30bn investment for the Scottish economy. Many of these jobs and investment opportunities are expected to benefit rural communities[25]. In addition, rural communities may be able to gain "Community Benefit". This is a voluntary funding or in-kind contribution from developers (of, for example, largescale renewable energy projects) to the local communities affected by the development. The Highland Council, for example, has a policy to seek such community benefit from developers of not less than £5,000 per installed Megawatt (linked to the Retail Price Index).

While large-scale renewable energy projects are expected to play a major role in meeting the renewable energy targets, there is additional focus on the role that community renewables and district heating systems could and should play, particularly in rural areas. To help facilitate this, the Community and Renewable Energy Scheme (CARES) Loan Fund has provided funding for the pre-planning costs of renewables projects for communities, land managers and local businesses. This included nearly £4 million of loans announced in October 2011[26]. One example of a community

[20] Willis, R., 2008. Low carbon Lake District. Responding to climate change in the national park. Lake District NPA, Kendal. http://www.lakedistrict.gov.uk/__data/assets/pdf_file/0017/170342/low_carbon_lake_district_report_16_june_2008.pdf
[21] Northumberland National Park, 2009. A Strategic Action Plan for a Low Carbon National Park in the North East of England 2010-2015. 2009 http://www.northumberlandnationalpark.org.uk/__data/assets/pdf_file/0008/146663/ccs-northumberlandnationalparkastrategicactionplanforalowcarbonnationalparkinthenortheastofengland.pdf
[22] SWRDA, 2010. Low carbon rural economy. What are the opportunities and implications on the rural South West of developing a low carbon economy?
[23] Scottish Government, 2011. Getting the best from our land: A Land Use strategy for Scotland. Scottish Government, Edinburgh
[24] Scottish Government, 2011. 2020 Routemap for Renewable Energy in Scotland, Scottish Government, Edinburgh
[25] As debated at the SAC Rural Policy Centre Roundtable debate October 2011: http://www.sac.ac.uk/ruralpolicycentre/news/pastevents/renewablesdebate/
[26] Scottish Government News Release 05/10/2011. Community sustainable energy loans. http://www.scotland.gov.uk/News/Releases/2011/10/05110236

renewables project in Scotland is a local housing association solar panel installation in properties on the Isle of Gigha[27]. Fyne Homes was commissioned to build 18 new homes for local families and new residents. The aim was to make the new homes as sustainable as possible. Solar panels were chosen to help meet that objective, while offering the tenants a reduction in their home running costs. Each home has two solar panels, saving 1575 kWh per annum, £134 per annum, and 677kg CO_2 per annum.

In addition, large, privately-owned estates have a contribution to make towards the development of renewable energy projects in rural Scotland[28].

In Focus: Alvie and Dalraddy Estate

Wood Fuels

In 1999 the cost of oil to heat Alvie House was £4,400 per annum. By 2005 the cost had increased to around £20,000 per annum. In 2004 a feasibility study identified wood chips as the most cost effective alternative fuel and a woodchip boiler was installed at Alive House in 2006. Since then a further three woodfuel boilers have been installed on the Estate; a 75 kW boiler at Dalraddy Holiday Park, 35kW woodchip boiler at Alvie Manse and most recently a small pellet boiler to heat the Estate Office. The Estate has also expanded into woodchip supply, has recently invested in additional woodchip storage and is currently constructing a woodchip drying shed which will be heated with a 199kW woodchip boiler. Timber is sourced from the Estate and elsewhere, providing demand for low quality round wood. The Estate supplies wood chips for a number of boilers within a 20 mile radius including a retirement home in Newtonmore, SNH offices in Aviemore, Duke of Gordon Hotel, Kingussie High School and Nethybridge Primary school. The total amount of woodchip produced annually by the Estate is now in the region of 3766m^3 which equates to replacing demand for 400,000 litres of oil every year.

Hydro-electric

Alvie Estate has an existing hydro-electric scheme that was erected around 1906 and closed down around 1962. There are proposals to redevelop the scheme, eliminating the existing dam and doubling the head of water. Initial investigations indicate that the proposed new scheme is likely to produce in the region of 150 kW of electricity.

http://www.alvie-estate.co.uk/index.htm

6.4.1 Challenges

Delivering the onshore and offshore grid connections that will connect, transport and export the renewable energy potential in Scotland has been identified as a key challenge for both large-scale and community projects. In line with this, among key national infrastructure projects identified in the National Planning Framework[29] are the electricity grid reinforcements necessary to realise the potential of Scotland's renewable energy resources. Developments of smart grid technologies are aiming to address some of the concerns. A 'smarter' grid applies information and communications technology to the electricity system, enabling a better understanding of variations in power generation and demand, and helping more efficient and reliable delivery of electricity[30].

There are also likely to be regulatory, financial, logistic, planning, social, equity and environmental considerations to address. In addition, concerns have been expressed by various stakeholders about whether the renewable energy targets are achievable[31],[32] , and whether the claims of job creation and incoming investment will be forthcoming. A review claimed that, at best, renewable energy could provide 50% of Scotland's electricity generation by 2020, only half of the Government's target[33]. As a result of the concerns over the targets, the Scottish Parliament held a round table debate on the issue in December 2011, and in January 2012 launched an inquiry into the achievability of the 2020 renewable energy targets. In addition, there is an on-going debate over the decision-making and revenue related to Crown Estates. There are concerns from some commentators that revenues raised on Crown Estates in local communities are mostly transferred out from the areas where those funds are generated. This concern exists particularly in regard to the aquaculture industry and marine renewables. In addition, concerns have been voiced about other land-owning public sector bodies such as the Forestry Commission. The Forestry Commission has signed over wind power development rights to international companies who may gain up to four fifths of the financial gain from such developments. In recognition of concerns such as these there have been formal inquiries and parliamentary reports in both Westminster and Holyrood[34]. In July 2011, HM Treasury announced details of The Coastal Communities Fund. The Fund is UK wide and worth 50% of the gross revenues from the Crown Estate's marine activities. The fund is linked to the revenues that are raised by the Crown Estate's marine activities each year. For example, in April 2012 £23.7 million is available. The fund may help to consolidate the benefits of offshore renewables for rural communities.

[27] Community Energy Scotland, Case Studies. http://www.communityenergyscotland.org.uk/case-studies.asp?id=36
[28] Alvie and Dalraddy Estate: http://www.alvie-estate.co.uk/alvie_dalraddy_estates.htm
[29] http://www.scotland.gov.uk/Resource/Doc/278232/0083591.pdf
[30] DECC, 2009. Smarter grids: The opportunity. DECC, London http://www.decc.gov.uk/assets/decc/What%20we%20do/UK%20energy%20supply/futureelectricitynetworks/1_20091203163757_e_@@_smartergridsopportunity.pdf
[31] STV, 28th April 2011. Labour: SNP renewables pledge is 'unrealistic'.
[32] Scotsman, 26 April 2011. Open letter: Powerful case against renewables stance. http://www.scotsman.com/news/letter_powerful_case_against_renewables_stance_1_1607491
[33] Mackay Consultants, 2011. North east Scotland: Monthly economic report for June 2011. Aberdeen and Grampian Chamber of Commerce
[34] For a summary, see: http://www.localpeopleleading.co.uk/policy-talk/policy-articles/1295/?utm_medium=email&utm_campaign=11January12NoSubs&utm_content=11January12NoSubs+CID_af8d94695f5a115f6278f0912775900c&utm_source=Tinder+by+Cazinc&utm_term=Whats+to+be+done+about+our+Crown+Estate

6.5 Rural Scotland: Household energy use, transport and land use

"All of Scotland has a part to play [in the transition to a low carbon economy], but there are particularly exciting opportunities for our rural communities with major new sources of investment and employment." [35]

The map (Figure 3) shows per capita CO_2 emissions by local authority for industrial, domestic and transport sectors (consumption) combined. It clearly shows that generally the rural local authority areas (as defined by the Randall definition) have higher per capita CO_2 emissions than urban local authority areas. Further, Figure 4 shows that a number of the rural local authorities also have high total CO_2 emissions, notably Aberdeenshire, Dumfries and Galloway, Perth and Kinross, and Highland.

Figure 3: Per capita CO_2 emissions by local authority, 2009

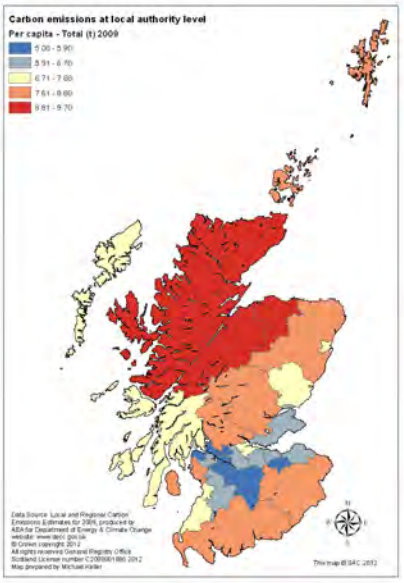


Figure 4: Total CO_2 emissions by local authority, 2009 (kt CO_2)

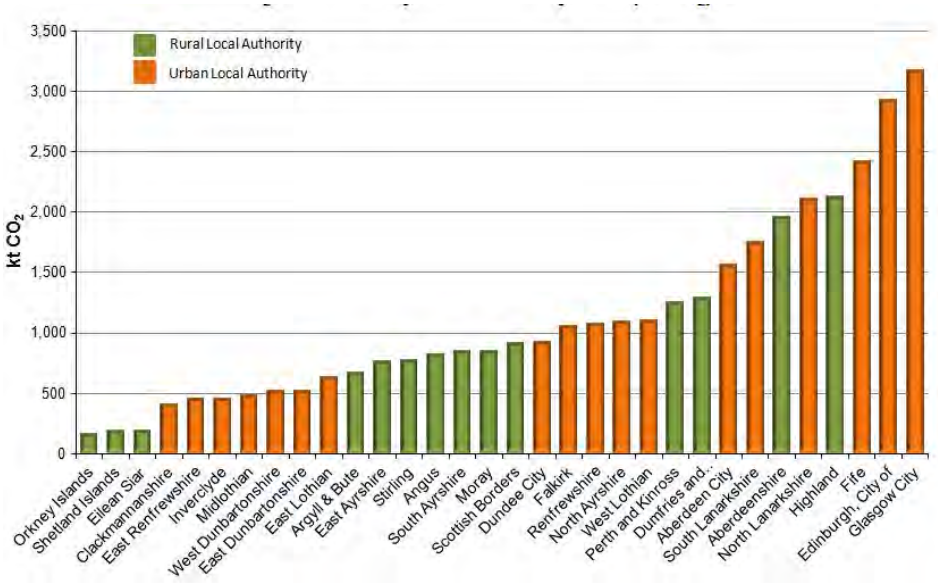
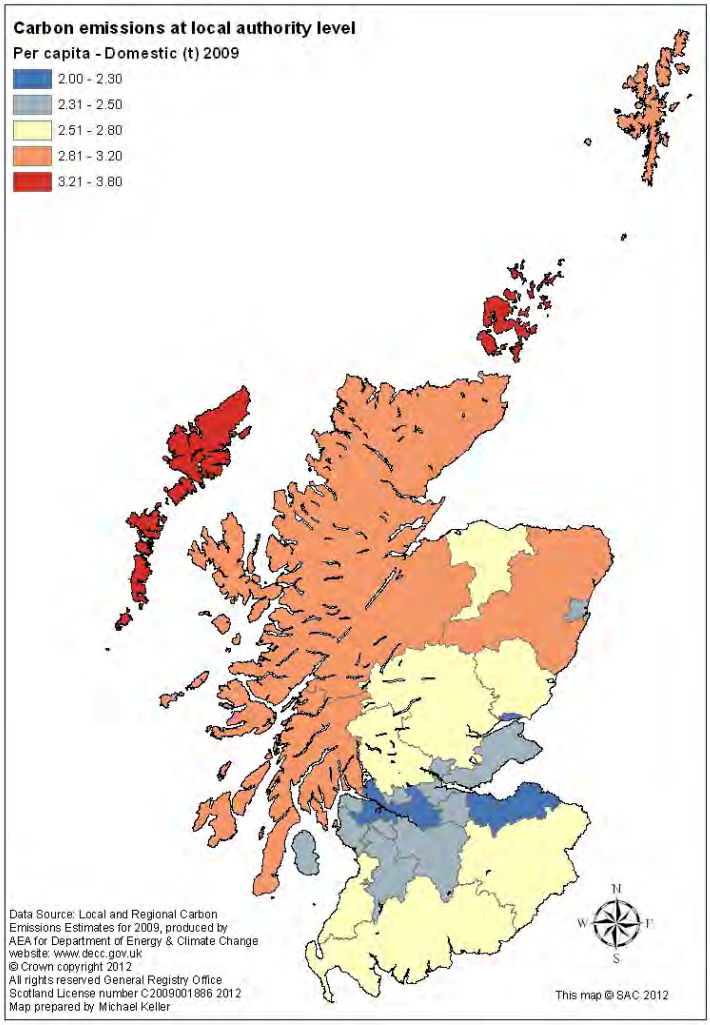


Figure 5: Per capita domestic CO_2



6.5.1 Household energy consumption: challenges, opportunities, initiatives and behaviour change

The rural low carbon story has to date been somewhat dominated by the issue of renewable energy production as presented above, and to a lesser extent energy consumption. Given that the Scottish Government has also set targets for energy demand reduction, the use of energy by rural households is another aspect of the low carbon agenda worth exploring. The average CO_2 emissions (tonnes per year) 2010 for rural dwellings was 8.4, while it was 5.1 for urban dwellings. This can be further illustrated by considering per capita CO_2 emissions by local authority. The map (Figure 5) shows that many of the rural local authority areas (for example, Highlands, Western Isles, Shetland, Orkney, Borders, Dumfries and Galloway, Aberdeenshire) have higher CO_2 emissions per capita in the domestic sector than the urban local authority areas.

In addition, under the Scottish Government urban-rural classification 'Accessible Rural' is the class with the highest average annual energy use in KWh (gas and electricity) per meter (table 1). When considering only average annual electricity consumption per meter, the two classes with the highest levels are 'Remote Rural' and 'Accessible Rural'. The class with the highest average annual gas consumption per meter is 'Accessible Rural'.

[35] Richard Lochhead (p51) in: Scottish Government, 2011. The Government Economic Strategy. Scottish Government, Edinburgh

Table 1: Average energy consumption 2009 per domestic meter

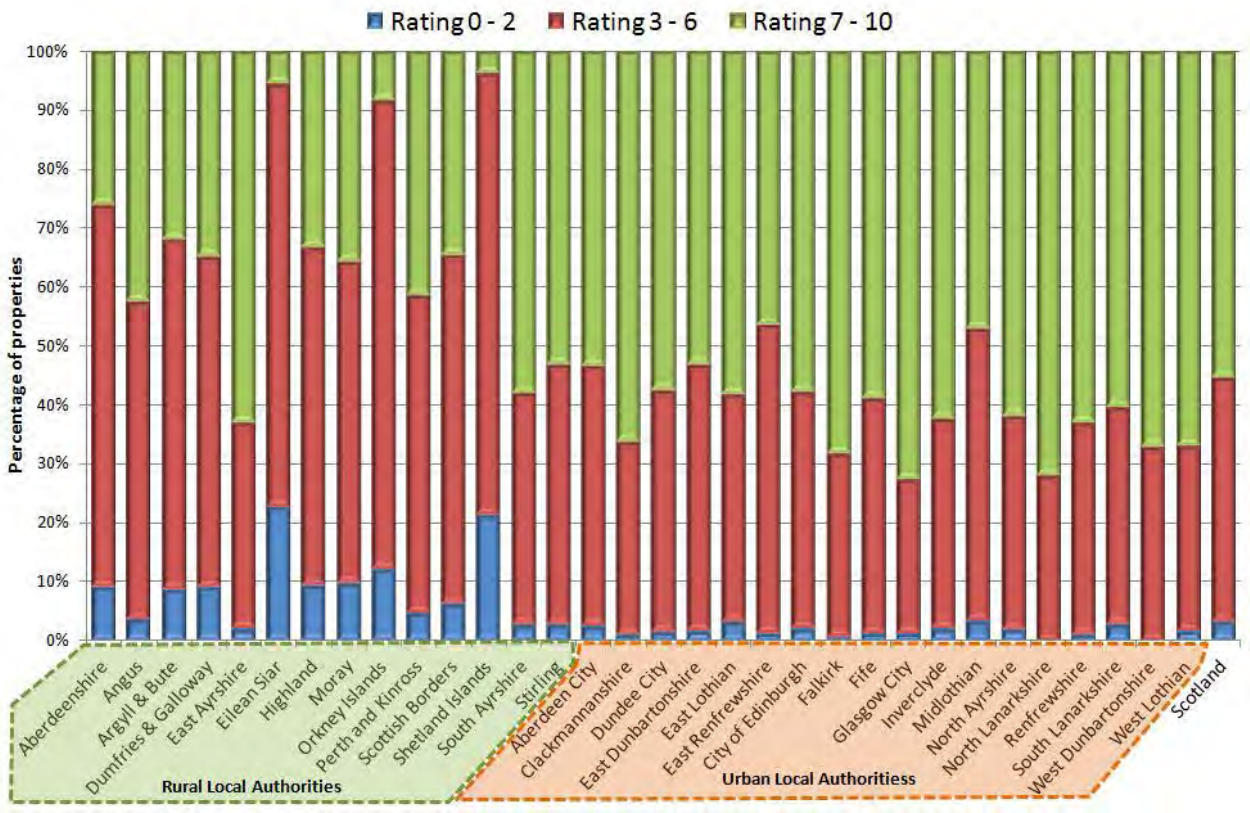
	Average annual Electricity consumption per domestic meter KWh	Average annual Gas consumption per domestic meter KWh	Average annual Total energy consumption per domestic meter (electricity + gas) KWh
Large Urban	8688	15525	24213
Other Urban	9509	16634	26142
Accessible Town	9985	17785	27770
Remote Town	11124	15187	26312
Accessible Rural	12372	18318	30690
Remote Rural	12819	10833*	23653
		* Many properties off gas grid	

Source: DECC, 2009

Energy efficiency of rural houses

Energy efficiency is measured using three methodologies: the National Home Energy Rating (NHER), the Standard Assessment Procedure for the Energy Rating of Dwellings (SAP), and Energy Performance Certificates (EPCs). The NHER covers all energy use in the home and allows for regional climate variations. NHER rates dwellings on a scale of 0 (poor) to 10 (excellent) based on the total energy costs per square metre of floor area. In 2010, 11% of rural dwellings in Scotland were rated as poor, while only 1% of urban dwellings were. At the same time, 68% of urban dwellings were rated as good and only 29% of rural dwellings. Thus the average urban NHER rating was 7 and the rural rating 5.1. Figure 6 shows that, generally speaking, domestic properties in the rural local authorities are far more likely than domestic properties in urban areas to have poor energy efficiency.

Figure 6: Average National Home Energy Rating by local authority



In fact, all three energy rating schemes show that domestic properties in rural areas are much less energy efficient than those in urban areas. This suggests that achieving a low carbon rural Scotland through greater energy efficiency may be a harder task than in urban areas because the baseline is worse than in urban areas.

Installation of insulation in rural houses

To date, much of the policy debate around housing and climate change in Scotland has focused on new homes[36]. Measures to tackle emissions from new homes are important for driving innovation and markets in low and zero carbon technologies. However, considering that, in 2050, 85% of homes already constructed will still be standing, the retro-fitting of existing properties with low carbon products such as insulation is clearly of importance. Figure 7 presents data from the Energy Savings Trust and shows that the rural local authorities had a much lower average percentage of cavity wall insulation installations during 2008/9 (under the CERT scheme).

[36] The Existing Homes Alliance Scotland. Declaration on the future of Scotland's Existing Homes. http://www.existinghomesalliancescotland.co.uk/declarations

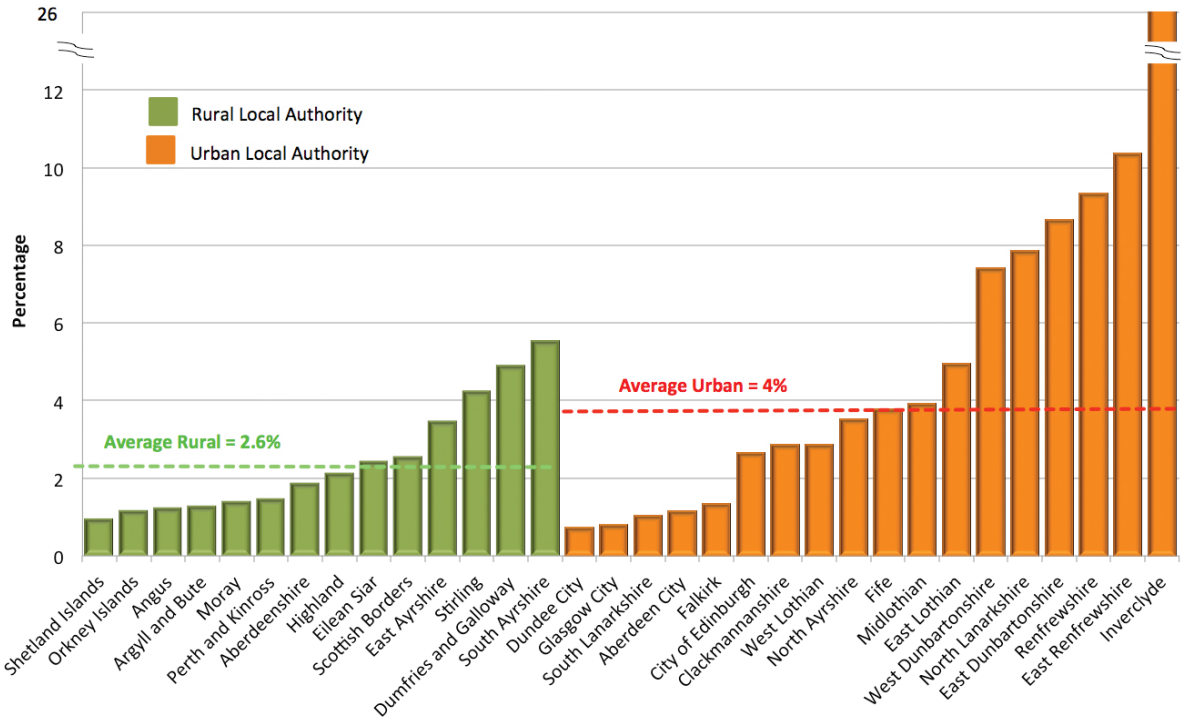


Figure 7: Percentage of properties in local authorities that had cavity wall insulation installed under the CERT scheme in the first two years (2008/2009)

The age of housing may be one reason why the uptake of insulation measures is lower in rural local authorities. The percentage of dwellings in rural Scotland that were constructed prior to 1918 is higher than in urban areas (25% as opposed to 15%). Houses built pre-1918 are not suitable for cavity wall insulation (although there are alternatives for solid walls).

Opportunities for renewable energy technologies in rural houses

While the data on CO_2 emissions, energy efficiency and insulation suggest a greater low carbon challenge for rural areas than urban areas, there are potential opportunities. Scotland has a large number of properties that are off the mains gas grid. Ninety two percent of these are in rural areas. Forty six percent of dwellings in rural areas are not on the gas grid. Although being off the gas grid network is generally considered to be a disdvantage and to lead to higher levels of fuel poverty, this may in fact provide additional incentives and opportunities to choose low carbon alternatives. Households that remain off-gas grid are potential candidates for early decarbonisation, especially for cost effectiveness and convenience reasons. Properties that rely on high carbon, expensive options such as fuel oil, bottled gas (LPG) or electric heaters for heating their homes, may present a distinct opportunity for (remote) rural areas. Average CO_2 emissions per rural dwelling are 8.4 tonnes per year so if 50% of the 197,000 rural dwellings that are off the gas grid converted to zero carbon renewable energy sources this would mean a potential saving of 827,400 tonnes CO_2 per year. This potential carbon saving is unlikely to be fully realised, however, without substantial financial assistance to rural households to cover the cost of installation.

Community initiatives

It is increasingly recognised that social norms (basically, what is considered to be socially responsible behaviour and what an individual is expected to do as part of a community) are important to people and the energy choices they make in their own homes. Thus increasingly there are community based projects in both urban and rural areas that are attempting to influence change in energy use behaviours by taking a whole neighbourhood approach. One example, funded by the Climate Challenge Fund, is the East Neuk and Landward Energy Network (ENLEN). This project aims to improve household energy efficiency in the area and reduce carbon emissions by 10% over 2 years through, for example, encouraging improvements in energy efficiency, and installation of insulation. Energy champions carry out home energy audits and conduct a behaviour change questionnaire. They refer participants to grant schemes and help them contact installers. In addition, participants get a mock Energy Performance Certificate and recommendations for changes to make. It is hoped that the more people see their friends and neighbours participating and adopting such actions, the more likely they will be to change their own behaviour.

Householders and behaviour change

As noted earlier, many of the changes that need to occur in order that Scotland becomes low carbon, rely (among other things) on individuals, households and communities changing the way they currently live and work. The international literature on energy behaviours is extensive and generally points to a complex interaction between intrinsic factors (for example, values, attitudes, perceptions, knowledge) and extrinsic factors (for example, infrastructure, cost) influencing the behavioural decisions that people make.Recent new analysis[37] of the Scottish Environmental Attitudes and Behaviours Survey[38] data focused on the energy use behaviours of Scottish residents, and aimed

[37] See SAC Rural Policy Centre briefing. http://www.sac.ac.uk/ruralpolicycentre/publs/changinenvironment/lowcarbonbehaviours/
[38] http://www.scotland.gov.uk/Topics/Research/by-topic/environment/social-research/Environmental-Attitudes

find out the barriers to, and motivations for, reducing energy use or moving away from patterns of energy use that contribute to emissions of GHGs. The behaviours that were investigated included every day behaviours (such as turning off lights when leaving a room), and one-off behaviours (such as looking into installing renewable energy technologies in their home). In order to investigate whether there were differences between rural residents and urban residents the Scottish Government 6-fold urban-rural classification was utilised. Generally speaking, levels of engagement in energy use reduction behaviours were similar between different residential location groups. However, residents living in small towns and rural areas were much less likely than residents living in urban areas to state that they turned down the heating when going out in the winter, suggesting a lower tendency towards this particular energy saving behaviour. However, residents living in small towns and rural areas were found to be more likely than residents living in urban areas to say that they had switched gas or electricity supplier "for environmental reasons", or to have considered installing renewable power sources at their property, in this case suggesting a greater tendency towards lower carbon choices. Getting more people to choose low carbon heating technologies is likely to be challenging. A householder choosing to invest in a low carbon heating source, such as solar thermal, ground or air source heat pumps, or biomass boilers, needs to become no more unusual than purchasing a new gas or oil boiler. Householders will need to know the cost implications and benefits of the low carbon heat source, and also consider it to be as reliable, safe, uncomplicated, convenient and 'normal' as more traditional household heating appliances. In addition, there will need to be suppliers who can meet demand, and installers and engineers who are fully trained and accredited. What the new SEABS analysis suggests is that there may be a tendency for rural dwellers in Scotland to consider such technology in advance of urban dwellers. The analysis further showed that concern for climate change (as measured by a series of attitudinal questions) was a much more important influence on energy use behaviours for residents living in urban areas, than for residents living in small towns and rural areas. This means that, all other things being equal, a change in the extent to which residents living in urban areas express concern about climate change will be more likely to lead to behavioural change than if residents living in small towns or rural areas express the same degree of change in levels of concern about the issue. Overall, the analysis suggested that some differences exist between urban and rural residents in Scotland in the decision making process relating to energy behaviours that may influence the extent to which households make lower carbon decisions in the future.

6.5.2 Transport: challenges, opportunities, initiatives

The contribution of transport-related CO_2 emissions in rural local authorities in Scotland is particularly significant, relative to more urban areas. Figure 8 highlights that in 2009, per capita CO_2 emissions from transport were highest in Perth and Kinross, Highland, Aberdeenshire, Stirling and the Scottish Borders[39], all 'rural' local authorities according to the Randall definition.

In addition, with regards to tonnes of fuel per head used in 2009, seven of the 10 local authorities with the highest figures are rural. This holds for fuel per head used for freight transport, for personal transport, and for total transport (Table 2).

Figure 8: Per capita CO_2 transport emissions by local authority, 2009

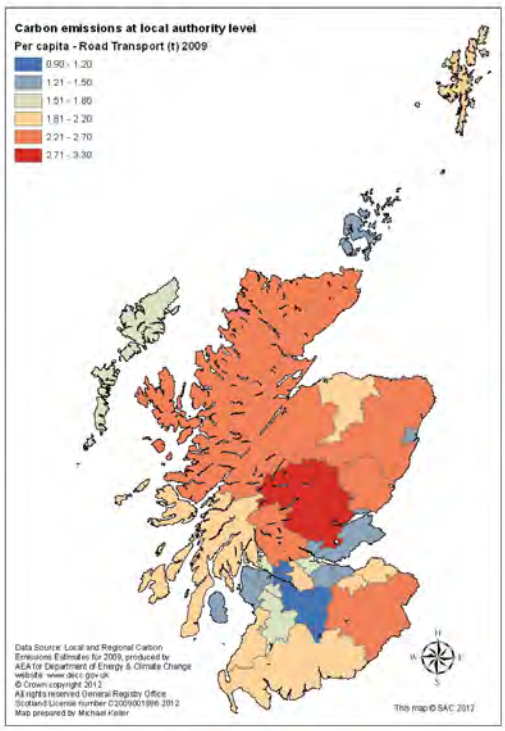


Table 2: Ranking of Scottish local authorities in terms of tonnes fuel per head used for transport in 2009[40]

Rank	Freight: tonnes fuel/head		Personal: tonnes fuel/head		Total tonnes fuel/head	
1	Dumfries & Galloway	0.62	Perth & Kinross	0.67	Perth & Kinross	1.18
2	Perth & Kinross	0.51	Stirling	0.59	Dumfries & Galloway	1.13
3	Stirling	0.31	Dumfries & Galloway	0.50	Stirling	0.90
4	Highland	0.30	Highland	0.48	Highland	0.78
5	South Lanarkshire	0.29	Aberdeenshire	0.47	Aberdeenshire	0.74
6	Scottish Borders	0.27	Falkirk	0.44	Falkirk	0.70
7	Aberdeenshire	0.27	North Lanarkshire	0.43	Scottish Borders	0.69
8	Angus	0.26	Argyll & Bute	0.42	West Lothian	0.66
9	Falkirk	0.26	Scottish Borders	0.42	North Lanarkshire	0.66
10	West Lothian	0.24	West Lothian	0.42	Angus	0.65

(Rural local authorities are highlighted)

[39] DECC. Carbon dioxide emissions within the scope of influence of local authorities (previously NI 186) http://www.decc.gov.uk/en/content/cms/statistics/local_auth/co2_las/co2_las.aspx

[40] Data draws on 2009 DECC data and 2009 mid-year GROS population estimates. See http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/regional/road_transport/road_transport.aspx and http://www.gro-scotland.gov.uk/files2/stats/population-estimates/mid-2009/mid-2009-pop-est-scotland.pdf

Such fuel consumption can be seen as a contributor to the variation in CO_2 emissions from transport in rural and urban Scotland illustrated in Figure 8. This pattern of high fuel consumption and related high CO_2 transport emissions in rural local authorities can be explained by a number of factors.

With regards to private vehicle use, the 2009/2010 Scottish Household Survey (SHS[41]) data suggests that people in rural areas have an increased likelihood of having access to a vehicle[42]. Those in rural areas are also most likely to own more than one vehicle, however it is unclear whether this is greater in remote or accessible rural areas[43]. The likelihood of spending over £100/month on fuel, and of using a private car to commute to work/school are both higher in rural Scotland (highest in accessible rural areas). Furthermore, on average, commuters in accessible rural areas and accessible towns commute much further than those from large urban and small remote towns.[44] In addition, those in rural areas are likely to use their cars more frequently. In 2010, 51% of those in accessible or remote rural areas did so every day, compared to 42% in other areas, increasing to 68.5% and 55% respectively when considering those who used the car at least three times a week [45]. Rural driving accounted for just over half of total road CO_2 emissions in Scotland in 2007, compared to urban driving, motorway driving and other[46].

There are also distinctions between rural and urban Scotland with regards to public transport, in terms of both provision and use. Those living in rural areas are less likely to have a bus stop within six minutes walk of their homes, and more likely to have no bus service at all (particularly so in remote rural areas)[47]. Those bus services that do run are also less frequent: bus stops with five or more services an hour decline with rurality, with no bus stops in remote rural areas having such a regular service. This is particularly significant given recent research which suggests that regularity of bus services is a fundamental factor in influencing the likelihood of switching from the use of private transport[48].

The choices people make with regard to transport and the extent to which these may be high or low carbon, are also connected to issues such as service provision and equity of access[49]. For example, 100% of residents in accessible rural (and urban) areas in Scotland are able to access key services, such as a GP, Post Office, Secondary school, and shopping centre, within 15 minutes by car. Only remote rural areas have figures below 100%, ranging from 69% of the population in such areas being within 15 minutes drive time of a shopping centre, to 99% a similar time from a Post Office. With regard to travel by public transport, however, the distinction is more stark: only 27% of those in remote rural areas can reach a GP in 15 minutes using public transport, and 15% a shopping centre (in accessible rural areas the figures are 41% and 14% respectively[50]). Further, in September 2011 in the rural local authorities of Highland in Scotland and Gwynedd in Wales, average fuel prices for petrol and diesel were higher than the national average [51].

Opportunities and initiatives

Scotland's National Transport Strategy set out 'key strategic outcomes' including to 'reduce emissions, tackle the issues of climate change, air quality and health improvement'[52]. In 2009, a range of policy options were outlined for achieving the transport emissions targets[53]. The options were grouped around technology (including electric car technology and network development), driving style, demand management, fiscal/infrastructure (including cycling and public transport infrastructure), Smart Measures (including travel plans and community hubs), freight, land use planning, and aviation. Subsequent publications[54] have focused on driving more efficiently;

[41] Scottish Government, 2011. Rural Scotland Key Facts 2011. Scottish Government, Edinburgh. http://www.scotland.gov.uk/Resource/Doc/359320/0121431.pdf
[42] Also supported by data from the 2008 Scottish Environmental Attitudes and Behaviour Survey (SEABS) http://www.scotland.gov.uk/Resource/ Doc/280711/0084578.pdf
[43] SEABS data – using a smaller sample size – finds ownership of at least one car is greatest in remote rural areas, whereas Scottish Household Survey suggests that those in accessible rural areas are most likely to do so.
[44] Scottish Executive 2006. Long distance commuting in Scotland. Scottish Executive, Edinburgh.
[45] Transport Scotland and the Scottish Government, 2011. Transport and Travel in Scotland 2010. Scottish Government, Edinburgh.
[46] The Scottish Government, 2010. Carbon Account for Transport. Scottish Government, Edinburgh.
[47] Scottish Government, 2011. Rural Scotland Key Facts 2011. Scottish Government, Edinburgh
[48] Allan, F. & Hall, C., forthcoming. Knowledge Scotland briefing
[49] Beecroft, M. 2011. Social impacts and social equity issues in transport. Workshop 4 Report: Connectivity of Rural Communities; Social Impacts and Equity in Transport Policy Briefing Note 5: Connectivity of Rural Communities
[50] Scottish Government, 2011. Rural Scotland Key Facts 2011. Scottish Government, Edinburgh
[51] United Kingdom Petroleum Industry Association Ltd, 2011. Fuel Supply to Rural Filling Stations. http://www.ukpia.com/files/pdf/ukpia-briefing-paper-fuel-supply-to-rural-fil.pdf
[52] Scottish Executive, 2006. Scotland's National Transport Strategy. Edinburgh: Scottish Executive.
[53] Atkins, 2009. Mitigating transport's climate change impact in Scotland: assessment of policy options. Scottish Government, Edinburgh.
[54] See for example: Scottish Government (2010) Conserve and Save: the energy efficiency action plan for Scotland. Edinburgh: Scottish Government; Scottish Government (2010) A Low Carbon Economic Strategy for Scotland. Scotland: A Low Carbon Society. Edinburgh: Scottish Government

reducing the need to travel and widening travel choices.[55] Overall – in 'low carbon' policy - little consideration has been given to how opportunities and challenges might vary according to degree of rurality. However, it has been suggested that the changes required to lower transport emissions are 'radically different' in rural areas compared to urban areas. It may be that reducing transport emissions in rural areas will primarily have to rely on new technology or alternative fuels[56]. Many innovations will only help achieve emissions targets if new technologies are adopted, i.e. if people change their behaviours accordingly. A variety of approaches that have the potential to lower emissions from transport in rural Scotland are presented here.

Community ownership of fuel infrastructure assets

The combination of high emissions from transport per head of population in rural areas, high reliance on car use, and high fuel prices, might mean that significant gains could be made if alternative fuels were made available through rural petrol stations. If one direction for a rural low carbon future is to be alternatively powered vehicles that provide a familiar transport experience for car owners, then a thriving network of fuelling points will be important. There are a number of examples where rural communities have sought to address the need for local fuel infrastructure through community ownership and operation of assets. A particularly notable example is Applecross, where the petrol station is community owned and managed[57].

Rural car clubs

The Scottish Government states that Car Clubs 'break the link between car use and car ownership'[58]. The challenges and opportunities of establishing such activity in rural areas appear to be different to urban areas[59]. However, given the car use and ownership data presented there may be – if behavioural change can be facilitated – potential to reduce GHG emissions from transport in rural areas through the establishment of rural car clubs. Such clubs are more prevalent in urban areas, and it has been suggested that some car clubs in rural Scotland may be unviable without support.[60] Nevertheless, more rural car clubs are now emerging.

In Focus: Operating a car club in rural Scotland

Mick Rodgers – WestWheels Car Club

WestWheels serves the Mallaig and Arisaig area including Knoydart, the Small Isles and Southern Skye. Established in 2011 after lobbying from members of local communities, it was initially funded by the Scottish Government and has 2 cars. Supported and funded through Carplus, it will be run by members as a co-operative with profits re-invested.

WestWheels was mainly established to reduce the need for islanders to have a seldom used car sitting idle in Mallaig, and reduce the need to transport vehicles by ferry. As our cars are relatively small and modern we can also help reduce emissions. We now have 43 members, with the West Highland Hotel in Mallaig being our first corporate member. This supports "Green Tourism," with visitors encouraged to travel to Mallaig using public transport hiring our cars for short trips. We will also support journey sharing through our website, allowing members and non-members to reduce their expense and carbon footprint. Situated rurally, WestWheels faces some challenges. For example all our island-based members rely on ferry travel to reach the cars. This can be restricted during the winter months, making journeys difficult to plan in advance. Additionally, our members have a minimum one hour drive to the nearest large town or almost four hours to the central belt. It is therefore impossible for island-based members to take advantage of the cheaper rates during off peak hours often available through urban-based clubs. Reaching our cars can also be challenging - members outside Mallaig need to plan the hire round bus/train times, or hire a taxi.

While there are some challenges in operating a rural car club, this is a fantastic opportunity to expand the concept throughout the West Highlands, and we are extremely positive about our future viability and expansion.

Contact: westwheelscarclub@gmail.com **Web: www.westwheels.co.uk**

Demand Responsive Transport and Community Transport

Demand Responsive Transport (DRT) is defined as 'any form of transport where the day-to-day service provision is influenced by the demand of users'. It is difficult to quantify the total amount of DRT activity taking place across Scotland[61] though there are many examples[62], playing a particularly strong role in rural areas[63]. Community transport can also play an important role in the wider 'DRT' picture, as well as in its own right, provided on a non-commercial basis by independent, non-statutory bodies, with some input from

[55] For detailed information on policies and actions to 2011, see: Scottish Government (2011) Low Carbon Scotland: meeting the emissions reductions targets 2010 – 2022 – report on proposals and policies. Edinburgh: Scottish Government.
[56] Royal Society of Edinburgh, 2011. Facing up to climate change: breaking the barriers to a low carbon Scotland. Edinburgh
[57] http://www.applecrossblogs.com/applecross-community-company; http://www.bbc.co.uk/news/uk-scotland-highlands-islands-10729584;
[58] Scottish Government, 2011. Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022.
[59] Carplus, 2004. Putting cars in the mix: development and impacts of cara clubs in rural areas. Carplus, Leeds.
[60] Ball, C. (2009) Developing Car Clubs in Scotland: A review by the Transform Scotland Trust. Edinburgh: Transform Scotland Trust.
[61] Juffs, B. (2010) A further review of Demand Responsive Transport in Scotland. Edinburgh: Transport Scotland.
[62] For example: http://www.dumgal.gov.uk/index.aspx?articleid=2636; Angus Transport Forum and Forward Scotland (2005) Demand Responsive Transport: Meeting the Needs of Rural Communities in Angus. Glasgow: Forward Scotland.
[63] Derek Halden Consultancy et al (2006) Review of Demand Responsive Transport in Scotland. Edinburgh: Scottish Executive.

volunteers[64]. The third sector has a particularly important role in such activity, bridging gaps in service provision and transport need.[65] In providing flexible and accessible alternatives to both private car use and conventional public transport provision, Community Transport and Demand Responsive Transport, may have the capacity to contribute to lower carbon rural transport. A study of Community Transport organisations in Highland found that benefits included an increase in shared transport thereby reducing the environmental footprint (particularly of short journeys).[66] However, while these services have significant social inclusion benefits, with regard to the low carbon agenda it is important to question how far such activities *substitute* journeys and not *increase* them by providing transport options for people who previously had none. There is though engagement by providers of community transport with the low carbon agenda: electric vehicles have been purchased by both the Galson Estate Trust[67] and Third Sector Hebrides[68], whilst the Island of Hoy Development Trust has recently ordered two hybrid vehicles[69] for community transport use.

Active travel initiatives/place-based initiatives

Active travel initiatives seek to support walking and cycling as modes of transport[70]. The Smarter Choices, Smarter Places (SCSP) initiative[71] takes a holistic approach to both influencing behaviour and improving services in seven towns. The 'baseline' of attitudes and behaviours toward transport in the remote small town of Kirkwall found:

- Average distance travelled by each resident was the lowest of the participating towns
- Distances travelled by walking and cycling were the greatest, with the smallest proportion who never walk.
- Highest levels of car ownership, although total car carbon used each day per resident was lowest.
- Greatest proportion of people saying they were willing and able to reduce car use.
- Those without a car in their household aspired to travel by car more often.
- Negative attitudes towards bus travel as a practical option were found.
- Strong cycle culture and high levels of self-reported physical activity, but a self reported reduction in cycling[72].

It was concluded that 'due to the nature of the island community people shop, work and socialise more locally and undertake more of their travel by active modes'. Subsequent activity has occurred through Kick Start Kirkwall which focuses on building on the existing cycle culture of the town.[73] Such place-based initiatives appear to be particularly relevant for addressing the 'low carbon' agenda, including the 'Transition Town[74]' network and, within Scotland, the 'Community Powerdown'[75] initiative (and wider activity related to the Climate Challenge Fund[76]).

Community hubs

A further Scottish Government proposition for achieving a lower carbon future is community hubs. There is potential for these to be located in rural and small urban areas, where they could provide internet-connected work spaces, drop-off points for deliveries, and locations for car clubs and electric vehicle charging infrastructure. The aim is for such provision to contribute to reducing GHG emissions by replacing a proportion of journeys to work with e-working, business travel with tele-conferencing and shopping trips with combined van deliveries[77]. Whilst there are many examples of such activities, often as part of wider rural community activity, there is little systematic assessment of their relative success at addressing the low carbon agenda in rural Scotland.

[64] Halden, D. (nd) Demand Responsive Transport: The role of the CT sector in making it work better. Edinburgh: DHC. http://www.dhc1.co.uk/features/pkctg_dhc_pres.pdf
[65] See, for example, http://www.dialabus.org.uk/
[66] DHC and TAS (2011) Value of Community Transport: Economic Analysis. Edinburgh: DHC. http://www.dhc1.co.uk/projects/valueofct.pdf
[67] See: http://www.galsontrust.com/
[68] See: http://www.thirdsectorhebrides.org.uk/
[69] See: http://www.orkneycommunities.co.uk/iohdt/
[70] Sustrans (2010) Take Action on Active Travel. Bristol: Sustrans. http://www.sustrans.org.uk/assets/files/AT/take_action_on_active_travel_2010.pdf
[71] Transport Scotland (nd) Smarter Choices, Smarter Places. http://www.transportscotland.gov.uk/roads/sustainable-transport/funding-for-projects/smarter-choices-smarter-places
[72] Halden et al. (2009) Monitoring and Evaluation of the Smarter Choices Smarter Places Programme. Baseline Report: Annex K: Kirkwall Findings. Edinburgh: Scottish Government. For baseline of all communities see Halden et al. (2010) Monitoring and Evaluation of the Smarter Choices Smarter Places Programme. Baseline Report: Version 1.1. Edinburgh: Scottish Government; and for 2011 interim report see: Halden et al. (2011) Monitoring and Evaluation of the Smarter Choices Smarter Places Programme. Year 1 – Process and Impact Review. Edinburgh: Scottish Government.
[73] http://www.kickstartkirkwall.co.uk/default.asp
[74] http://www.transitionnetwork.org/
[75] http://www.communitypowerdown.org.uk/
[76] http://ccf.keepscotlandbeautiful.org/
[77] Scottish Government (2010) Conserve and Save: the energy efficiency action plan for Scotland. Edinburgh: Scottish Government; Scottish Government (2011) Low Carbon Scotland: meeting the emissions reductions targets 2010 – 2022 – report on proposals and policies. Edinburgh: Scottish Government.

Virtual technologies

In addition to the potential capacity of built infrastructure to contribute to a low carbon rural Scotland, 'virtual' technologies may provide alternative access to information, services, markets and employment. As outlined in Section 5 of this publication, there are ongoing challenges for those seeking to access fast and reliable internet (and mobile phone) connection in many rural areas. However increasing attention is being paid to the capacity of online technology to enable not only remote working and rural participation in the digital economy, but also to improve the effectiveness of public transport provision.

In Focus: Match-making transport demand and provision in rural Scotland
FITS: Flexible Integrated Transport Services

dot.rural
Transformation through Digital Innovation

Professor John Nelson – University of Aberdeen

There is strong evidence that the lack of an integrated approach to passenger transport has been consistently raised as a problem, resulting in a number of issues such as duplication of provision, badly informed choices, limited options and delays for patients trying to access healthcare, difficulty in connecting shopping destinations, etc. Audit Scotland (2011) in their recent review of Transport for Health and Social Care note that: "There appears to be little or no planning or coordination between and within agencies and there is sometimes duplication and inefficient use of resources. A nationally coordinated and collaborative response to the development of an integrated transport infrastructure to support commuters across Scotland, particularly in rural communities, is needed."

Working in collaboration with the Grampian Health Transport Action Plan team the FITS project aims to explore the use of virtual transport marketplaces in order to more effectively match demands with transport opportunities - this is particularly critical in rural areas where there is little, patchy, and rigid transport service provision. The FITS platform will offer a compatibility and eligibility checker, which passengers and agencies alike can use to better inform suitable choices. It will also aim to optimally allocate passenger trips between suitable options thereby making services more efficient, higher occupancy, and potentially reducing carbon emissions.

FITS is a project being undertaken at the dot.rural Digital Economy Hub based at the University of Aberdeen. dot.rural is a £12 million, five-year interdisciplinary research centre funded by the UK Research Councils.

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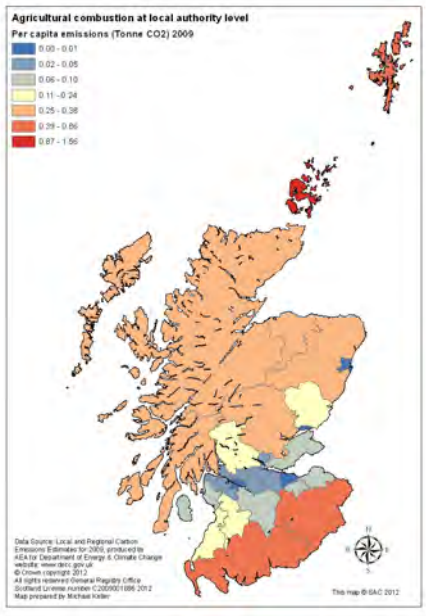
6.5.3 Land use (agriculture, forestry and soils): challenges, oppportunities, initiatives and behaviour change

Figure 9 shows that the local authority areas with the highest per capita CO_2 emissions from agricultural combustion are, unsurprisingly, the rural local authorities, but there is variation between them. Notably, emissions are particularly high in the Orkney Islands, Shetland, Borders, and Dumfries and Galloway.

The land use sector gives rise to GHG emissions from livestock, agricultural soils, from liquid and solid animal wastes, and from certain land use changes, for example, conversion of grassland to cropping. However, it is also a sector with the capacity to sequester carbon through the creation of woodlands and in soils. Allowing for the effect of sequestration, the net emissions from this sector in Scotland in 2009 were -5.677 Mt CO_2e[78]. Despite this positive contribution to low carbon, net emissions from the land use sector are predicted to rise to 2020, as woodland coverage decreases because of large scale harvesting of maturing commercial timber.

Figure 9: Per capita CO_2 emissions for the land use sector by local authority, 2009



Agriculture and soils

Emissions from the agriculture sector contribute 16% of total GHG emissions in Scotland[79]. The main GHGs emitted by Scottish farming are CO_2, methane (CH_4) and nitrous oxide (N_2O)). CH_4 has a climate warming potential 25 times that of CO_2, and N_2O has 298 times the climate warming potential of CO_2 , thus, although overall quantities of emissions are lower for CH_4 and N_2O, their contribution to climate change is significant. Farming contributes to CO_2 emissions through the direct use of fossil fuels

[78] Thomson et al, 2011. Emissions and Removals of Greenhouse Gases from Land Use, Land Use Change and Forestry (LULUCF) for England, Scotland, Wales and Northern Ireland: 1990-2009. Centre for Ecology and Hydrology. http://uk-air.defra.gov.uk/reports/cat07/1204120924_DA_LULUCF_GHG_Inventory_report_2012_fullreport_v2.pdf

[79] Thomas et al, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment.

in farm operations, the indirect use of embedded energy in energy intensive inputs, such as fertiliser and feeds, and the cultivation of soils resulting in the loss of soil organic matter. Other, non-CO_2 emissions arise from livestock (through enteric fermentation (CH_4 emissions arising from digestion by ruminants) and waste management), the use of nitrogen fertilisers and the cultivation of soils. Enteric fermentation from cattle is the largest single source of CH_4 emissions in Scotland (125.6kt CH_4), contributing 89% of Scottish agricultural CH_4 emissions. Total emissions from cattle are 73% of total CH_4 emissions from agriculture in Scotland, with sheep responsible for a further 24%. Emissions are largely dependent on the numbers of livestock and fell by 16% over the period 1990-2009, due to a decline in cattle and sheep numbers. Scottish emissions of N_2O have declined by 27.2% over the same period due to reduced levels of fertiliser application and improved management of slurries and manures.

Of the total Scottish emissions of 15.9 kt N_2O in 2009, around 13.5 kt $N2_O$ was from agriculture. Ninety three percent of N_2O emissions from the agriculture sector are from agricultural soils. This represents 77% of total N_2O emissions (12.3 kt N_2O)[80]. N_2O emissions from agricultural soils are from a variety of activities and processes, including the application of synthetic fertiliser (23.7%), leaching of fertiliser nitrogen and applied animal manures to ground and surface water (31.8%), waste directly from grazing animals (20.1%), manure used as fertiliser (8.8%), and the ploughing in of crop residues (7.9%).

Scottish soils are rich in carbon and store over 3,000 million tonnes of carbon, equivalent to over 80 years of annual Scottish GHG emissions[81]. As a result, the management of soils as a store of carbon is very important. Of particular importance are Scottish peatlands, which make up the majority of Scottish soil carbon, and over 50% of all UK soil carbon. If carbon rich soils are poorly managed, for example, through overgrazing and inappropriate ploughing, this can lead to substantial emissions of carbon.

Forestry

Forestry makes a net contribution to reducing atmospheric CO_2 through the uptake of carbon in growing biomass, in vegetation and in soils. The previous Scottish Executive set a target for the forestry sector to deliver annual carbon savings of 0.6 million tonnes of carbon (MtC) by 2010, 0.8 MtC by 2015 and 1.0 MtC by 2020[82]. To meet this, the Scottish Forestry Strategy includes a target of achieving 25% woodland cover in Scotland by the second half of this century. There is a target for 10,000-15,000 hectares of new afforestation each year. The plan is to achieve this by 2015 and to sustain the same planting rate in subsequent years to maintain the levels of carbon sequestered annually[83].

The potential for carbon savings in the forestry sector arises primarily from increasing the forest area and from replacement of fossil fuels with sustainable sources of woodfuel[84]. A further contribution is made when timber and wood products are used as a substitute for more energy intensive materials such as concrete and steel.

However, increasing the forested area in order to sequester carbon may in the short term lead to carbon being released from soils. The final use of timber is also important to consider as this will determine whether carbon remains in the wood or is released into the atmosphere. At a larger scale, there is some evidence to suggest that changes in land cover, such as large areas of afforestation, can result in greater rates of warming through altering the area's energy balance, as well as changing the albedo of the earth[85].

Opportunities and initiatives: Reducing GHGs from land use

Rural land managers can help to increase the sequestration of carbon in the soil and vegetation, for example, by planting woodlands and by protecting high carbon soils. Analysis suggests an emissions reduction potential of 0.7 $MtCO_2e$ or 1.3 $MtCO_2e$ is possible by 2020, through a range of changes to nutrient, soil and livestock management[86]. There is also increasing interest in legume-rich feed for livestock. The conversion of short-term nitrogen-fertilised grass leys to grass–legume mixtures could result in the accumulation of 10Mg C ha–1 in the soil over a period of 20 years[87].

A number of policies have been put in place in order to try to reduce GHG emissions from rural land use. These include the 'Farming for a Better Climate' (FFBC) initiative which encourages farmers to implement five key actions to reduce GHGs. This is expected to lead to emissions savings of 319 $ktCO_2e$ by 2020. In addition, grant funding is available to farmers through the Scotland Rural Development Programme for installing anaerobic digestion

[80] Thomas et al, 2011. Greenhouse Gas Inventory for England, Wales, Scotland and Northern Ireland 1990 - 2009. Report to the Department for Energy and Climate Change, The Scottish Government, The Welsh Government and The Northern Ireland Department of Environment
[81] Scottish Government, 2009. Climate change delivery plan: Meeting Scotland's statutory climate change targets. Scottish Government, Edinburgh
[82] Scottish Executive, 2006. Changing our Ways: Scotland's Climate Change Programme. Scottish Executive, Edinburgh
[83] Forestry Commission Scotland, 2009. Climate change action plan 2009-2011. Forestry Commission Scotland, Edinburgh http://www.forestry.gov.uk/pdf/fcfc124.pdf/$FILE/fcfc124.pdf
[84] Scottish Government, 2009. Climate change delivery plan: Meeting Scotland's statutory climate change targets. Scottish Government, Edinburgh
[85] Skerratt et al, 2010. Rural Scotland in Focus 2010. SAC, Edinburgh
[86] Scottish Government, 2009. Climate change delivery plan: Meeting Scotland's statutory climate change targets. Scottish Government, Edinburgh
[87] Steen Jensen et al, 2011. Legumes for mitigation of climate change and the provision of feedstock for biofuels and biorefineries. A review. Agronomy for Sustainable Development.

to process animal wastes. This is expected to lead to emissions savings of 16 $ktCO_2e$ by 2020. Also, the woodland creation target of 10,000-15,000 hectares of new afforestation per year is predicted to lead to emissions savings of 310 $ktCO_2e$-454 $ktCO_2e$ by 2020. It has also been estimated that if some or all of the measures currently included in the voluntary FFBC scheme were to be made a mandatory requirement of CAP cross-compliance, and thus qualification for the Single Farm Payment, then a further 540$ktCO_2e$ emissions savings could be achieved[88].

In Focus: Farming for a Better Climate

Farming for a Better Climate

Funded by the Scottish Government as part of its Climate Change Advisory Activity

Scottish Government has funded the Farming for a Better Climate initiative. Aimed at farmers and land managers in Scotland the FFBC highlights a range of techniques that reduce GHG emissions from routine practices and benefit the farm business financially. The initiative highlights a range of mitigation measures under five key action areas:

- Optimising energy and fuel use.
- On-farm renewables.
- 'Locking in' carbon on the farm.
- Better use of nutrients.
- Optimising livestock management.

Under the FFBC there are demonstration events to promote practical measures, and information provision via a website and newsletter. There are also four 'climate change focus farmers'. Over 3 years specialists take a detailed look at all aspects of the focus farm business to establish where changes can be made to improve farm profitability and reduce GHG emissions. These focus farmers host discussion group meetings to pass on their findings to others within the farming community. For more information on the Farming for a Better Climate initiative, the focus farmers and key action areas, see:
www.farmingforabetterclimate.org

The UK Forestry Commission Woodland Carbon Code supports the move towards a low carbon future through encouraging investment in woodland creation in the UK for mitigation of GHGs. The code sets out design and management requirements for voluntary carbon sequestration projects. Woodlands soak up around 2% of the UK's annual emissions of GHGs, but with increased planting rates, have the potential to soak up much more, thus being one of many measures that can help mitigate the effects of emissions. The Code will ensure that this is done to a recognised standard. Given that this is a voluntary code, its efficacy will depend entirely on uptake by land managers.

Behaviour change

As with rural householders and rural transport users, many of these actions require individuals to make a choice to change their behaviour. Farmers and other land managers may be reluctant to adopt new management activities if they perceive them to be risky, uncertain and not the 'normal' practice to which they are accustomed. As with the uptake of many new agricultural innovations, there are likely to be a majority who prefer to 'wait and see' how a small number of innovators progress with new carbon reduction actions before being willing to try them themselves.

6.6 Conclusions

6.6.1 Key points:

With the policy aim of becoming low carbon Scotland, the Scottish Government has set a number of targets, including:

- Reduce Scotland's greenhouse gas emissions by 80% by 2050.
- Produce the equivalent of 100% of Scotland's domestic electricity demand from renewable sources by 2020.
- Almost completely decarbonise road transport by 2050.
- Significantly decarbonise rail by 2050.
- Increase tree planting rates to 10,000-15,000 hectares/yr by 2015 and sustain that rate beyond 2015.

There are a number of important strands to the rural low carbon story:

Renewable energy production

- There are opportunities for both renewable electricity generation and heat generation in rural areas
- There is debate over whether renewable energy targets are achievable
- There are challenges relating to the current capacity of the electricity grid if the opportunities are to be realised
- There is debate over revenues relating to marine renewables in Crown Estate waters and other renewables on land owned by other public bodies such as the Forestry Commission

[88] The Scottish Government, 2011. Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022. The Report on Proposals and Policies. Scottish Government, Edinburgh

Energy consumption by households

- Per capita carbon dioxide emissions are generally higher for the domestic sector in rural local authority areas
- Average electricity consumption is generally higher in rural local authority areas
- Domestic properties in rural areas have worse energy efficiency ratings than those in urban areas
- The percentage of domestic properties in rural areas that were built pre-1918 is higher than in urban areas, thus limiting opportunities for insulation
- The percentage of properties installing cavity wall in 2008-09 (under CERT) was lower in rural local authority areas.
- There are some differences between rural and urban residents in terms of their self-reported carbon behaviours
- There appear to be differences in the factors that influence carbon behaviours in different areas.
- There is a higher percentage of properties off the gas grid in rural areas which may present greater opportunities for householders to choose renewable energy sources

Transport

- Per capita carbon dioxide emissions are generally higher for the transport sector in rural local authority areas
- Fuel consumption per capita is generally higher in rural areas
- There are higher rates of car ownership and car use in rural areas
- Both supply of, and demand for, transport is influenced by rural location, and this varies between accessible and remote rural areas
- Public transport is more restricted in rural areas
- As use of public transport is related to availability of frequent services, behavioural change will rely to some extent on supply which may be a particular challenge in rural areas
- Based on current activity, solutions to reducing transport emissions in rural areas will most likely arise from a combination of community initiatives and infrastructural changes

Land Use

- Per capita carbon dioxide emissions from agricultural combustion are (not surprisingly) generally higher in rural local authority areas
- Emissions from the agriculture sector contribute 16% of total GHG emissions in Scotland
- The main emissions from Scottish farming are methane and nitrous oxides although these have declined by 16% and 27% respectively between 1990-2009 due to a decline in livestock numbers and fertiliser applications, and improvements in slurry and manure management
- Carbon storage in woodland and soils means that land use has a net negative contribution to emissions
- Carbon mitigation initiatives focus on encouraging land managers to implement measures such as better use of nutrients, on-farm renewables, optimising livestock management, and introduction of legume-rich feed
- There are likely to be challenges related to behavioural change towards 'novel' land management activities

6.6.2 Implications

There appears to be little policy at the national level which recognises the geographical variations in capacity, opportunity or willingness to engage with the low carbon agenda, with the exception of the land use sector. Given that the baselines relating to current patterns of energy and transport use, and relating to housing stock and transport infrastructure, show some important differences between rural and urban areas, and given that differences may exist in the corresponding carbon behaviours of residents, and in the influences on those behaviours, there is justification in calling for a specific low carbon rural policy agenda to be formulated. Specifically, there is a need for rural-specific targets across all sectors – not just land use. These should relate to emissions reductions, roll out of technologies and infrastructure, engagement and educational programmes, and support for and realisation of rural initiatives.

Overall:

- There are examples of novel and established approaches through which rural areas of Scotland are contributing (or may contribute) to the lowering of carbon emissions.
- A particular hindrance to the development of a clearer picture of the low carbon rural agenda in Scotland includes the relative absence of robust reviews of initiatives which have been deployed, particularly initiatives designed to tackle other issues which may also contribute to the low carbon agenda.
- There is an absence of a systematic approach to exploring how challenges and opportunities may vary across accessible and remote rural Scotland, between multiple actors and within differing governance contexts.
- Demand-side issues (reduction in emissions/behavioural change/choices) need to be tackled too. Thus, one of the key challenges relates to behavioural change of individuals, communities and businesses.
- There are rural-specific challenges of infrastructure and social context that will have to be acknowledged and addressed in order to achieve a low carbon future in Scotland.

7. Key Messages

From the evidence we have presented in this report, key messages emerge, with implications for policy and practice and for the development of rural Scotland and therefore Scotland as a whole. After outlining these messages below, we conclude by identifying directions in which policy must continue to move. These are essential in order to enhance the ability of rural Scotland's communities, businesses and individuals to continue contributing to the vitality of the nation's economy, society and environment.

7.1 How has rural Scotland changed since we reported in 2010?

The 2010 report focused on population trends and housing needs, the resilience of the economy, and rural Scotland's biodiversity, water quality and climate change. What has changed?

Population trends: Most of rural Scotland's Local Authority areas will experience population growth in the next 20 years. The largest growth will be where Local Authorities have a city within their boundary, with population decline in peripheral Local Authorities. Migration is a key determinant of the future size of populations and net migration is expected to be positive in all rural areas. In turn rural Scotland's population will continue to become more culturally diverse.

Housing needs: In addition to housing pressure from growing rural populations, there will be increased demand for additional housing from single-occupant households, even in areas of population decline. This in turn means ever more pressure for suitable land and for mains services such and water and sewerage, with the consequent need for the planning system to engage with rural housing need. The 'flip side' to new stock developments is increasing concern that, in many areas in rural Scotland, nearly 50% of housing stock comprises second homes and vacant or empty property.

Economic resilience: Although in 2007-2010 there was a growth in public sector employment, it is not possible yet – from available data – to see whether these trends have continued. Anecdotal evidence of efficiency budgeting would suggest not, with the potential for increased vulnerability of those areas most dependent on public sector jobs. In 2007-10 unemployment grew faster in predominantly urban areas than in rural areas. While rural areas suffered a contraction in economic activity in 2007-2010, they were slightly more resilient than urban areas, although the South of Scotland has suffered a greater impact than elsewhere. Urban areas seemed to grow faster than rural areas in the economic boom, but shrank faster in the recession.

Environment: An integrated approach is required to address Scotland's competing demands of climate change, water quality and biodiversity. Using an ecosystem approach in the assessment of land use options is the best way to help identify and resolve conflicts. An ecosystem approach also allows for the full range of goods and services to be taken into account, and for trade-offs between climate change, food and energy security to be analysed. Opportunities afforded by the Land Use Strategy and associated Action Plan must not be missed.

7.2 Drivers and engines of change: towns, the private sector and the third sector

Towns in rural Scotland: Scotland's towns are diverse in their size and in their function. Some have a more diverse economic base than their surrounding rural areas while others are heavily dependent on one sector or employer. The Scottish Government classifies towns as having populations between 3,000 and 10,000 and regeneration initiatives focus on such town centres. However, settlements smaller and larger than this also perform critical service functions for their rural hinterlands. Scotland's remote small towns are more vulnerable than their rural hinterland, especially in accessible rural areas. There is a cluster of vulnerable rural places in the South (and particularly south west) of Scotland.

The private sector: Rural areas have the highest density of businesses per head of the population of Scotland. Microbusinesses (1-9 employees) provide 39% of employment in remote rural Scotland. Businesses in accessible rural Scotland have higher growth ambitions than businesses in remote rural Scotland. Rural businesses tend to be less likely to access public sector support than urban businesses. There is a perception such support exists primarily to aid big, high-growth, operations rather than smaller enterprises. There is need to recognise the significance of micro- and small enterprises to communities in rural Scotland, where a closure can have a disproportionate impact due to lack of alternative opportunities. Integrated, place-based policies that bring in planning consent for business units, affordable housing and broadband investment are increasingly essential, since these are all interconnected parts of business regeneration and sustainability in wider rural Scotland.

Third sector: There is a greater number of charities per head in rural Scotland than urban Scotland and people in rural areas are more likely to have volunteered formally than their urban counterparts. However, there is need for clarity on whether activities are additional to what is already in existence, or substitute by filling the gaps in service provision. This need for clarity is important, particularly in times of efficiency budgeting, since there may be a temptation, out of necessity, for communities' revenue streams to be diverted into substituting for services that were formerly provided by the public sector. Charities in rural areas face specific challenges due to sparsity of population and geographical spread of people and services. Recruitment and succession planning can be difficult. However, many

rural communities do have a wide skills-base as evidenced in the range of local initiatives. Linking to specialist skills in other locations is important. Knowledge of volunteering and – although to a lesser extent – the third sector is primarily based on case studies but we also need a more systematic evidence base so that hindrances, bottle-necks and opportunities can be more concretely identified.

7.3 Infrastructural and technological developments and opportunities

Rural next generation broadband: High-speed or next generation broadband is integral to Scotland's social and economic development and to the delivery of the Scottish Government's National Outcomes. Despite strategies and investments since 1999, much of rural Scotland remains in the "final third" with "not-spots" and "twilight zones" hampering inclusion and development. Urban Scotland's connectivity, meanwhile, is getting faster, faster. Significant infrastructural investment, including by communities themselves, is required, even to maintain the rural-urban digital divide. Next generation broadband enables the realisation of commonly-accepted "rights" for Scotland's citizens, irrespective of location. Demand for next generation broadband is persistent and increasing amongst rural businesses and communities, from accessible to more remote areas. National-level investment across Scotland remains essential. The exchange of knowledge and experience among communities, the private sector and the public sector is critical. This will enable rural communities and businesses - including the "final third" - to live and work in a fit-for-purpose, digital Scotland.

A low carbon rural Scotland: Per capita domestic CO_2 emissions are higher in rural Local Authorities than urban, and rural domestic properties have worse energy efficiency ratings. CO_2 emissions are also higher for the rural transport sector due to higher (than urban) rates of car ownership and use. Having a larger proportion of domestic and business properties 'off grid' (gas) may present rural areas with greater potential for uptake of renewables, although conversion costs need to be taken into account. Place-based community initiatives have potential for addressing low carbon household and transport agendas in rural areas. Infrastructural challenges remain, such as connectivity to the grid. The land-use sector in rural Scotland has the capacity to sequester CO_2, through good practice in the management of soils and through afforestation. Examples exist of established and novel approaches through which rural areas in Scotland are already contributing to lowering carbon emissions. There is a need to examine how such initiatives have fared in remote and accessible rural Scotland, in order to gather systematic lessons.

7.4 Policy: where next?

The evidence we have presented in the 2012 Report unequivocally supports the claim that rural Scotland has specific characteristics which make it different from urban Scotland. Such characteristics vary according to location, closeness to cities, remoteness and peripherality, from the North to the South. This is not an argument for "privileging" rural over urban. Rather, the evidence shows that to enhance growth or development, inclusion and life-chances in rural Scotland, the design and deployment of policies must be "tailored" to the local specifics of rural Scotland.

We believe there is a precedent for this in other areas of policy linked to what we believe is a national ambition for greater social and economic inclusion. How this is envisioned, designed and delivered varies. There can be differences according to client group (age, gender, condition) and socio-economic circumstance/occupation (fruit pickers with English as a second language, or female health service workers across rural Scotland). Some of these differentiations are deliberate (such as working with children versus working with adults or those with learning difficulties); others evolve as lessons are learned. The National Performance Framework is a further example: tailored through Single Outcome Agreements and the devolved setting of local (but complementary) objectives, delivery approaches and measures.

Localising or tailoring national policy is therefore already an objective and its appropriateness is increasingly being argued as critical against the need to target resources and budget efficiently.

We argue on the basis of this report that tailoring strategic national policies needs to go further, making it "fit for purpose" in multiple rural settings. Rural business are different from urban businesses in their size, priorities and ambition. Population, migration, employment and housing play out in specific ways in rural Scotland. This also influences third sector activity. The off-grid nature of domestic and business properties, and the weaknesses of national broadband, make rurally-tailored interventions necessary. Bottlenecks exist in connecting local (community) renewable energy suppliers with the national grid, presenting challenges for generating a revenue stream for community investment.

This is not a list of negatives. Rather, it is a list of characteristics, which need to be deliberately built, repeatedly, and systematically, into the very heart of strategic, national policies. Localising design and delivery can be seen as an expensive luxury in straitened times. However not to localise for a set of rural contexts means that scarce resources are inappropriately allocated and challenges remain unaddressed as simply "noise in the system".

Strategic policy design and delivery remain essential in enhancing the opportunities for rural Scotland's communities and businesses to continue contributing to the vibrancy of wider Scotland. Hand in hand with such a national architecture, increased tailoring will enhance outcomes from, for example, the National Performance Framework, the Community Empowerment and Renewal Bill and the ongoing policy and practice responses to the Christie Commission Report. Benefits will also accrue from further tailoring of national rural policies and initiatives such as the Common Agricultural Policy, Land Use Strategy Action Plan and the Rural Parliament.

In our Introduction, we cited the Legacy Paper of the previous Administration's Rural Affairs and Environment Committee[1] , where the changing nature of rural Scotland over the past two decades is highlighted. The Committee goes on to say:

"we strongly encourage a future committee … to seek to expand its awareness of what life is like in rural Scotland today. The nature of modern rural Scotland, and whether rural development policies are tailored to the modern reality, might in itself be a worthwhile inquiry topic… the main thing is that the committee should feel that it has developed a good understanding of what rural Scotland is like and what its priorities are" (Point 52).

Through the *Rural Scotland in Focus* Reports, we aim to enhance understanding of these two, subtly-different aspects: what rural Scotland is like and what life is like in rural Scotland. We would hope that applying this enhanced understanding and deliberately integrating it into "fit for purpose" policies, will increase the scope for all players, irrespective of where they live and work in rural Scotland, to contribute and thrive.

[1] 7th Report, 2011 (Session 3), SP Paper 659: http://archive.scottish.parliament.uk/s3/committees/rae/reports-11/rur11-07.htm