

Radio City Association

Electric Valley Socio-Economic Analysis



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Neil has worked on a number of community based projects assessing feasibility and financial sustainability, developing many new initiatives to improve competitiveness and growth and has provided evidence on the topic to the Scottish Parliament and various international high level round tables in a plethora of European countries including Greece, Italy, Ukraine and the Baltic and Balkans states as well as around the world in countries ranging from Bermuda to Turkey and the Office of the President of the United States.

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Gordon McGuinness is Director of Industry and Enterprise of Skills Development Scotland (SDS), the Scottish Government's national skills agency, with overall responsibility for activity which supports Scotland's key growth sectors through the development and implementation of Sector Skills Investment Plans (SIPs), Regional Skills Planning, Employer Services and SDS's Research and Evaluation Services.

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Acknowledgements

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Executive Summary

The Radio City Association (RCA) undertook this study to examine the extent of social and economic impacts to be gained from their proposed community owned and operated renewable energy projects in the Garnock Valley.

The proposals represent a substantial step forward in terms of community economic empowerment and funds generated from the projects would provide substantial additional funding to local projects and onward re-investment in the local economy. This is an important set of proposals at this time, for Scotland and for the Garnock Valley, as we all seek to find new approaches to deliver the concepts of economic wealth creation and inclusive growth.

Scotland is a wealthy country with a proud history of achievement and innovation. However, it is also a country with persistent challenges including poverty and equality and prolonged austerity. We have a shared vision for a future with our proposals creating more resources, available and applied locally, to tackle the socio-economic challenges and capture new inclusive growth opportunities.

In order to address these challenges and opportunities, there is a need for new ideas and new economic wealth models to be implemented in Scotland and North Ayrshire. North Ayrshire has particular challenges which are magnified within the Garnock Valley towns of Kilbirnie and Beith. The severity of such challenges is deep and has been prolonged. North Ayrshire has the highest avoidable death rate in Scotland; it is the fifth most deprived council area in Scotland. Key social and economic indicators (including poverty, child poverty, educational attainment, digital and other life skills, employment and investment) all show the degree of deprivation and the fragility of any basis for future optimism that things can improve dramatically in the short to medium term. All the main indicators show a worsening relative position and a requirement for new approaches locally.

Over the next decade North Ayrshire's working age population is projected to continue to fall, slowing economic growth and putting pressure on public services. In Kilbirnie the picture is even more serious; between 2012 and 2026 the population of North Ayrshire is projected to decrease by 4% whilst the population of the Garnock Valley is projected to decrease by 9%. Working age residents will decline by more than 13% across North Ayrshire compared with a 16% reduction in the Garnock Valley.

A falling working-age population limits demand in the local economy making it harder to attract business investment and create job opportunities. The lack of economic opportunity, socio-economic background and poor educational prospects all leads to other problems (such as crime and social isolation, lack of access and use of services, lack of access to private transport) that compound the challenges in realising aspirations for inclusive economic growth. Hospital stays for alcohol, drug and smoking related causes are higher than elsewhere as are rates of ill health and mental ill health.

On a variety of economic indicators, North Ayrshire has performed worse than national averages across Scotland and the UK. Performance is lower in terms of average household income; wage growth; house prices (especially Kilbirnie); business birth rate and survival rates; employment; disabled employment; female participation rates.

Economic growth in North Ayrshire averaged 1.1% p.a. between 2006 and 2015 representing the 3rd slowest of all 32 Scottish local authorities. GVA per head in North Ayrshire was £15,294, which is 38% lower compared than the Scottish average of £24,800. North Ayrshire mainland has the lowest GDP per head by region in Scotland. The productivity rate of North Ayrshire is significantly lower than the national average which in turn are also lower than international comparisons of OECD and EU member states.

Many of the elements that constitute North Ayrshire's economic performance cannot be changed without a fundamental shift in the underlying environment. Some can be traced to the de-industrialisation of the late 20th Century contributing to the many barriers to inclusive growth ranging from social deprivation and health inequalities to issues such as North Ayrshire's geographical location.

Local Authority budgets have been reduced putting pressure on jobs and wages, many councils – North Ayrshire included – have attempted to mitigate this. North Ayrshire Council continues to tackle socio-economic issues, however there is a need for new approaches locally. Local areas do not have all the means necessary to improve economic performance. The RCA Proposals reach out in partnership by encouraging and working together with the Council. This will demonstrate a new model for collaboration with social enterprise and the voluntary sector to deliver genuine grassroots community led change that will be empowering and transformative and assist the council in its ability to contribute to improving North Ayrshire's performance in a variety of policy areas.

The seven areas where the RCA proposals will have positive impact are:

1. Economic Development;
2. Poverty and Inclusivity;
3. Health, Sport and Recreation;
4. Culture and Heritage;
5. Employment;
6. Community Empowerment;
7. Environment.

This report shows how the RCA Proposals will be a game changer for the area and act to resolve issues locally, led by local people. This development can address many of the challenges and socio-economic issues in the local area and promote sustainable and inclusive economic growth.

The project benefits and impacts will change lives positively. RCA has set out to resolve the issues with ambitious regeneration proposals in a developed concept known as the

“Electric Valley”. This includes the proposed wind turbine as a key economic and social asset for the Garnock Valley Community and a major income generator for the community. This will generate over £6 million for investment in the community as a result of the development which is forecast to create and safeguard 18 jobs directly per annum before taking account of the construction of the turbine itself and multiplier effects as a result of the re-investment and support of the local supply chain as well as various other indirect and induced social and economic benefits that would be created.

The net surpluses will be re-invested fully in local community projects. Based upon the estimated minimum return of the wind turbine project alone is circa £6million over 20 years this equates to £300,000 re-investment per year.

The funds would be reinvested in local projects across the seven key policy areas noted above including employability, tackling poverty and social exclusion, promoting health and life skills, community capacity building and asset development.

By providing positive direct contributions and assistance in areas such as housing and mental health, the RCA community turbine could also save the public purse almost £2m as well as freeing up public services such as the NHS or justice system to deal with other pressing issues and have positive impacts for individuals who may have been affected, integrating them into society.

This professional expert report provides solid examples and evidence of the basis for these forecast impacts. The proposals themselves are inclusive in their own right. RCA is a membership led organisation that will engage for the full involvement of the Garnock Valley community in developing projects and targeting this re-investment locally. This has started with the development of our initial proposals.

The RCA Proposals will be capable of delivering significant, substantial and long-lasting socio-economic benefits. These benefits and positive impacts will be seen at a project, community and strategic level. Indeed, the approval of this application will provide immediate benefits to many and assist to realise further community focused and controlled projects to release further potential for growth through people, community enterprise and third sector community organisations that would not otherwise happen. It is a new way to create a virtuous cycle for growth and assist to counter the prevailing vicious cycle of prolonged decline and exclusion locally. We commend these proposals and look forward to working with all partners to deliver the positive changes that will result.

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1. Current Socio-Economic Realities

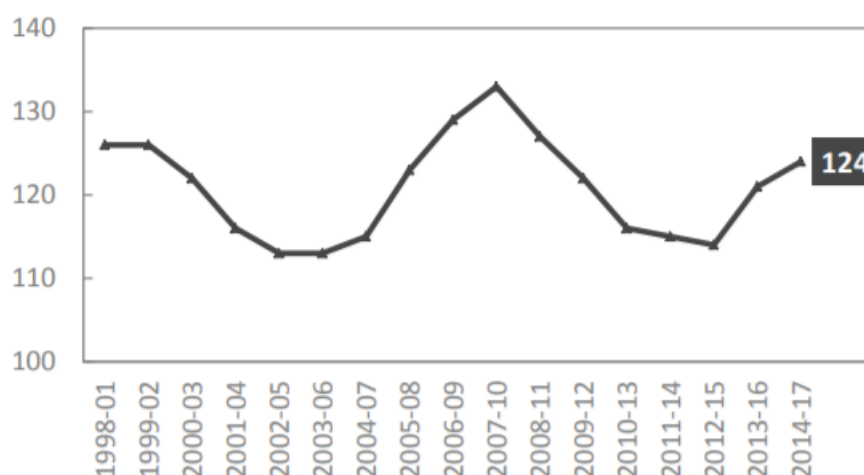
1.1 Poverty and Inequality National Context

For a prosperous nation, Scotland has high levels of inequality;

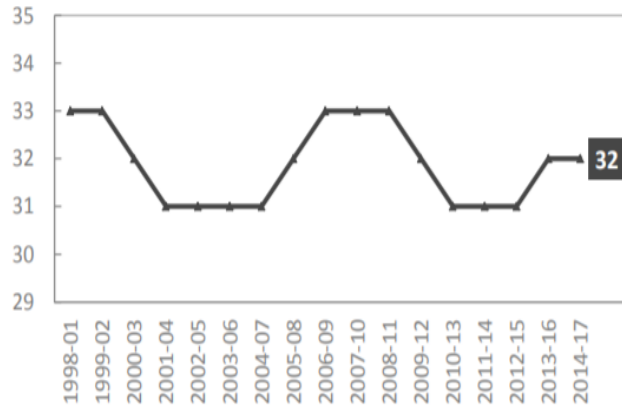
- In 2015/16 the top 10% of the population in Scotland had 38% more income than the bottom 40% combined.
- In 2012-2014 the wealthiest 1% of private households owned more wealth than the bottom 50%.
- In 2015-16 men in the most deprived areas of Scotland were expected to live 26 fewer years in good health than those in the least deprived areas and were expected to die 13 years earlier.
- In 2015-16 women in the most deprived areas of Scotland were expected to live 22 fewer years in good health than those in the least deprived areas and were expected to die 9 years earlier.

It is increasingly recognised that tackling inequality is not just an important outcome but that it can also be an important driver of sustainable economic growth – i.e. ‘inclusive growth’.

This chart shows the Palma measure of inequality, a ratio of total income received by the top ten percent of the population divided by the total income of the bottom forty percent of the population (expressed as a percentage) over time. This measure of how equally income is distributed across the population is known as the “Palma ratio” or “S90/S40 ratio”. Palma is used internationally to estimate the extent of inequality between those at the top of the income distribution and those at the bottom and is currently used in Scotland to monitor progress towards the Scottish Government’s Solidarity Purpose Target. The top ten percent of the population had 24% more income in 2014-17 than the bottom forty percent combined. Comparing this to the two previous three-year periods might suggest an increasing trend of income inequality.



The Gini coefficient is a measure of how equally income is distributed across the population. It takes a value between 0 and 100, with 0 representing perfect equality where every person has the same income. The larger the Gini coefficient, the more people towards the top of the income distribution have a greater share of overall income with a value of 100 representing the case where one individual has all the income.



In practice, the proportion of overall income going to each individual increases gradually across the income distribution. In 2014-17, the Gini coefficient for Scotland was 32, unchanged from 2013-16, but higher than in the previous three-year periods

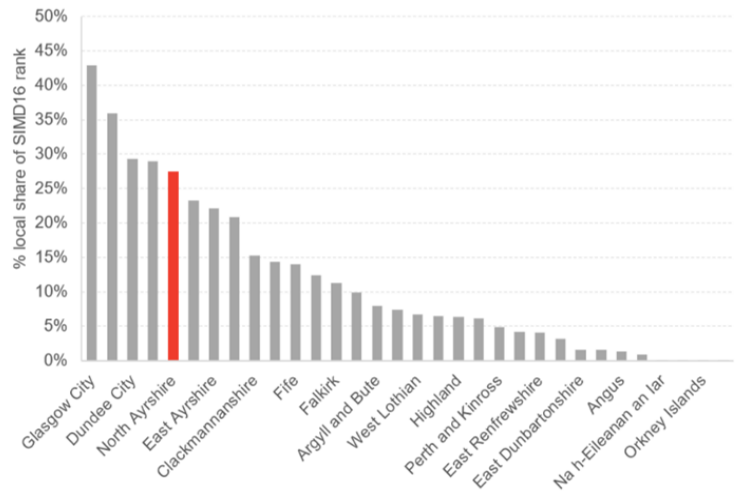
Poverty can be measured in a number of different ways, each of which can tell us something different about poverty. One of the most common measures is relative (income) poverty which identifies people living in households with an equivalised income below 60% of the UK median household income. Persistent poverty identifies individuals who live in relative poverty for three or more of the last four years. It therefore identifies people who have been living in poverty for a significant period of time, which is more damaging than brief periods spent with a low income. The impacts can affect an individual throughout their lifetime.

- Between 2013 and 2017, 11% of all people in Scotland were in persistent poverty after housing costs. This compares to 10% in 2012-16.
- Overall, in Scotland 58% of people in poverty and 70% of children in poverty live in a household where someone is in employment.
- 1 in 4 children in Scotland (26%) are living in poverty. Between 2013 and 2017, 17% of children in Scotland were in persistent poverty after housing costs. This compares to 14% in 2012-16. Children have consistently had a higher risk of living in persistent poverty after housing costs than working-age adults and pensioners in Scotland. This is especially true for some groups who are at greater risk of poverty than others, children living in households where the mother is under age 25 are at greatest risk.
- 45% of lone parents are living in poverty and 23% of people in a family with a disabled adult live in poverty
- 1 in 5 working age people (20%) in Scotland are living in poverty. Between 2013 and 2017, 10% of working-age adults in Scotland were in persistent poverty after housing costs. This compares to 9% in 2012-16.
- 13% of pensioners in Scotland are living in poverty. Between 2013 and 2017, 10% of pensioners in Scotland were in persistent poverty after housing costs. This compares to 11% in 2012-16.

1.2 North Ayrshire Social Statistics

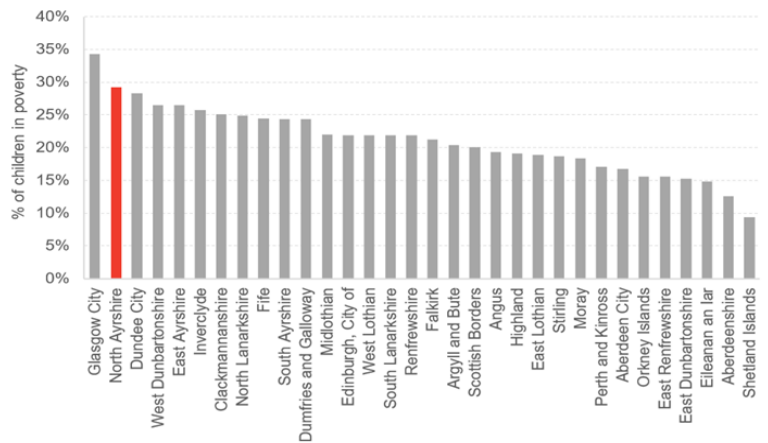
Poverty and Inequality

The Scottish Index of Multiple Deprivation (SIMD) 2016 shows that **27% of North Ayrshire's 186 data zones are within the 15% most deprived in Scotland** making North Ayrshire the fifth most deprived council area in Scotland after Glasgow, Inverclyde, Dundee and West Dunbartonshire. **The Garnock Valley has 27 datazones. 7 of these (26%) are within the 15% most deprived; 14% of the the North Ayrshire proportion.** This is an overall increase from 22% in 2012



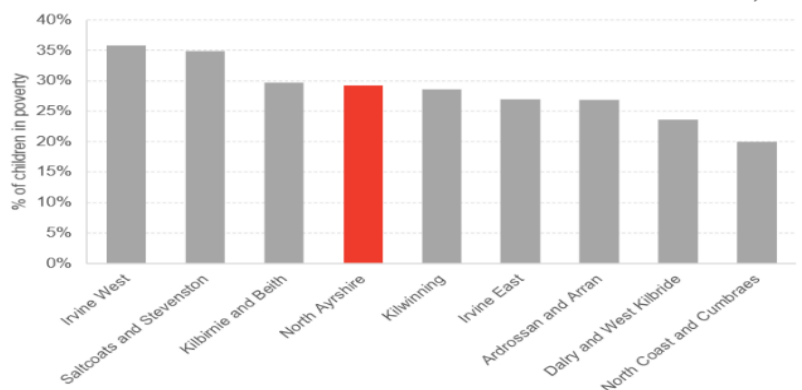
Source: Scottish Government

Poverty rates in North Ayrshire have increased steadily since 2011. In **North Ayrshire, there are an estimated 7,705 children living in poverty** (End Child Poverty, 2018). This is the 2nd highest rate in Scotland at 29%.



Source: End Child Poverty

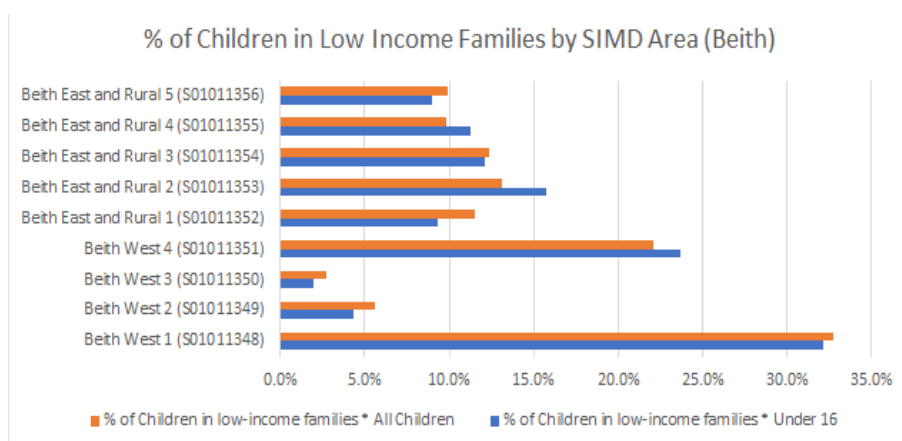
As an indication **22.3% of children receive free school meals in North Ayrshire**, compared to a rate of 15.6% in Scotland



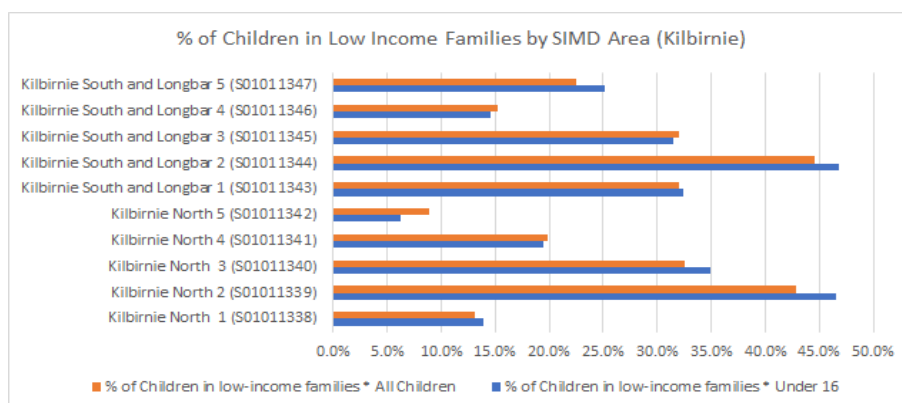
Source: End Child Poverty

The **HMRC Children in Low-Income Families Local Measure** shows the proportion of children living in families in receipt of out-of-work (means-tested) benefits or in receipt of tax credits where their reported income is less than 60% of UK median income.

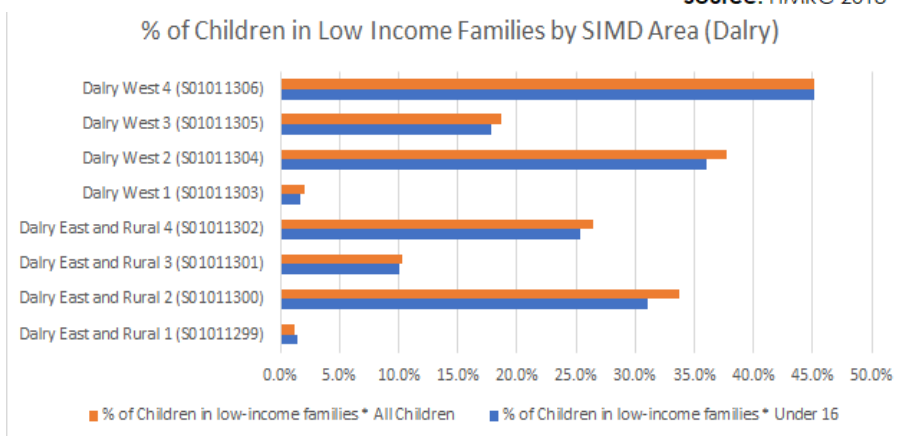
Using the data produced the following graphs have been produced providing for local data on deprivation at data-zone level in the towns of the Garnock Valley. This allows for a demonstration of the inequality that exists between wealthier (or less deprived) areas of the Garnock Valley and the most deprived. Dalry and Kilbirnie are comparable in terms of overall deprivation although Dalry also appears to have the starkest contrast in terms of inequality between intermediate data-zone areas. Kilbirnie has higher levels of children in income deprived households as a percentage of children under the age of 16, whilst Beith is lower overall with the exception of data-zone Beith West 1 being more comparable to the average level within the Garnock Valley.



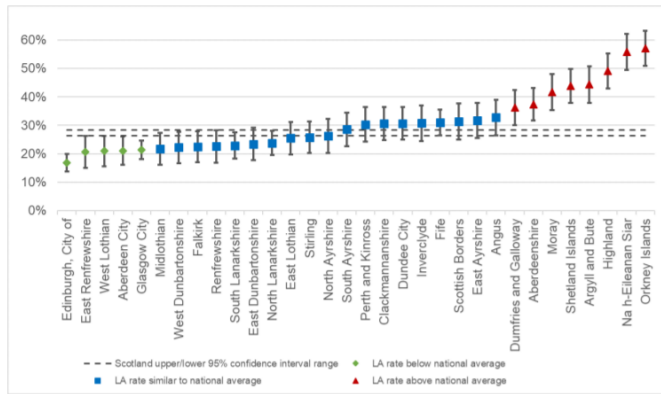
Source: HMRC 2018



Source: HMRC 2018



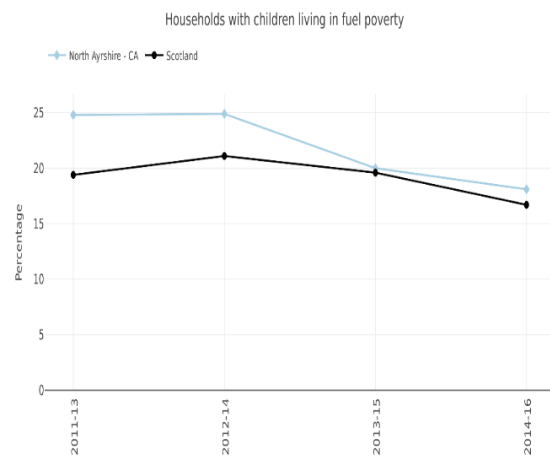
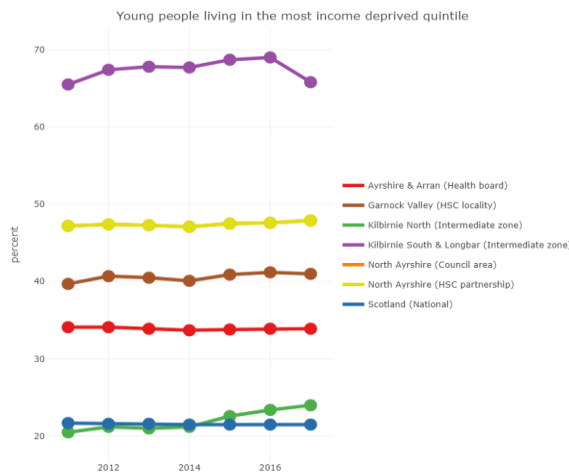
Source: HMRC 2018



Source: SHCS 2015-17

This graph shows the percent Dwellings in Fuel Poverty by local authority. North Ayrshire has the 14th highest in fuel poverty out of 32 local authorities slightly higher than the Scottish average. **North Ayrshire's rate of Fuel Poverty stands at 26% in 2017 compared to 23.7% as the Scottish national average.**

However, the rate of extreme fuel poverty in North Ayrshire is below the national average at 8% compared to 11.9% in Scotland. Although, **North Ayrshire fares poorly in terms of energy efficiency, which is one of the main drivers of fuel poverty.** North Ayrshire is 4th lowest out of 32 local authorities in terms of percent dwellings with insulated cavity or solid walls compared to Scotland average and the lowest in percentage terms by number of dwellings with less than 100mm loft insulation and 8th highest by presence of damp within dwellings. North Ayrshire also has the 7th highest level of SHQS Failings in Scotland.

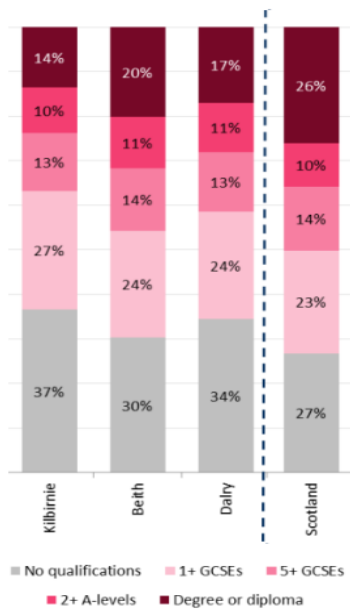


The geographies in the graph above show consistently more young people living in the most deprived quintile when compared to the national average: NHS Ayrshire & Arran, Garnock Valley, Kilbirnie South & Longbar, and North Ayrshire. The value of this indicator in the area of Kilbirnie North has consistently risen since 2014 and is now ~12% above the national average.

Overall, the number of children living in households suffering fuel poverty is considered to have decreased since the re-evaluation of fuel poverty measurements, however, even by this measure North Ayrshire is consistently above the national average

Education

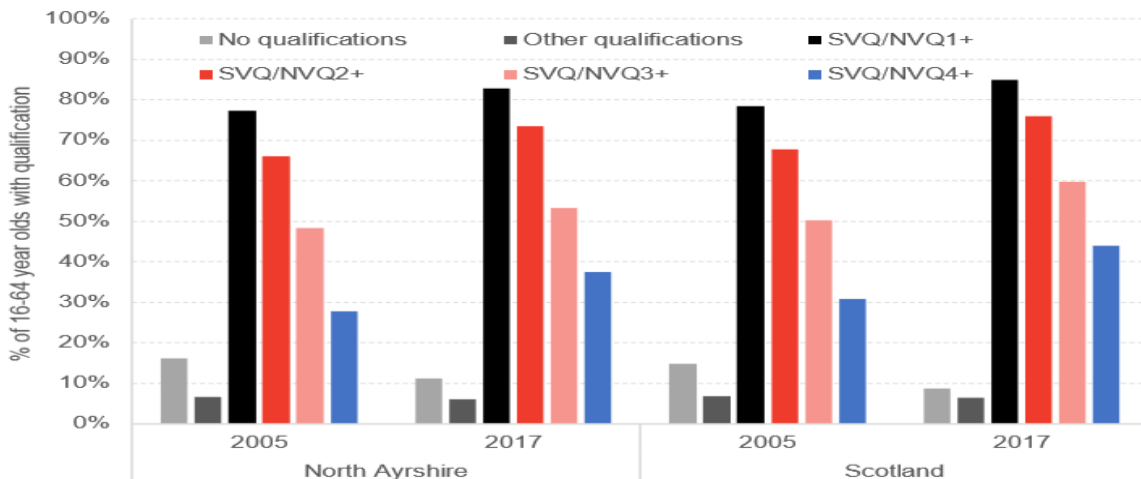
In terms of education, North Ayrshire has one of the lowest levels of educational attainment and one of the highest levels of people aged 16 and over with no qualifications. Additionally, North Ayrshire displays a lack of basic digital skills making digital exclusion prominent. In 2017, the NOMIS database displayed that in North Ayrshire 11.1% of the population have no qualifications compared to the national average of 8.7% in Scotland.



Source: UK Census 2011

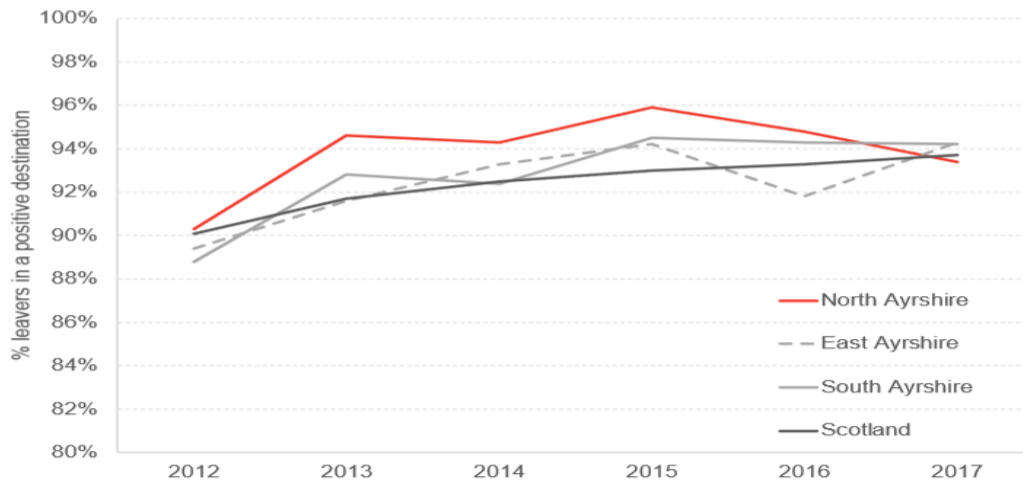
There is a gap in both in intermediate and high-level skills. In 2015, the proportion of those in employment (25-64) who are graduates in North Ayrshire, at 19.0%, was lower than in Scotland as a whole, at 34.6%.

In addition, lower proportions of people (16-64) have reached SVQ3+ or SVQ4+ in North Ayrshire than in Scotland as a whole. Issues around skills particularly affect women within North Ayrshire, with the lowest proportion of females (16-64) with degree level qualifications amongst all Local Authorities in Scotland. Females are also highly segregated in the labour market in lower-skilled (and predominantly lower-paid) employment, in part, a result of subject selection in education and occupational segregation. North Ayrshire's proximity to Glasgow City also results in outward migration of younger/skilled people.



Source: ONS

Although not statistically significant, there has also been a downward trend in school leavers in positive destinations resulting in North Ayrshire now being below the Scottish national average. The proportion of school leavers deemed to be in “positive destinations” is high and broadly aligned with the national figure although North Ayrshire's youth unemployment rate (16-24) is also high compared to Scotland as a whole.



Source: Scottish Government

School leavers in North Ayrshire are more likely to enter further education (31.1%) compared to Scotland (23.4%) however, a lower proportion of school leavers enter Higher Education (33.2%) compared to the Scottish average of 36.8%. Lack of aspiration and opportunities for young people can compound the challenges of the work-readiness/skills mismatch. The latest 2011 National Census data shows that the proportion of all people aged 16-74 in the North Ayrshire Council area with a degree level qualification was 20 per cent which was lower than the Scottish figure of 26 per cent.

A lower proportion of people who leave the school are in employment in North Ayrshire than in Scotland as a whole and more young people (16-19) are not in full-time education, employment or training (NEETS). However, North Ayrshire school leavers are more likely to enter work upon leaving education than the other two Ayrshire authorities. This requires to be caveated however by the fact that positive destinations as a measure includes employment using zero-hour contracts and may not be indicative of a quality of work as is reflected in the wider economy.



The percentage of school leavers living in the most deprived area with 1 or more qualification at SCQF Level 6 (Higher Level) in North Ayrshire was lower than the Scottish average in 2016/17 at 40.3% compared to 43%. By the time they leave school, young people in the 20% least deprived areas of Scotland are almost twice as likely to achieve one or more Highers or Advanced Highers compared to young people in the 20% most deprived areas.

The Scottish Government Poverty and Inequality Commission states that in Scotland by the time a child reaches age five, those in families in the highest 20% of earners were around 13 months ahead in their vocabulary compared with children in families in the bottom 20% of earners.

Digital Skills

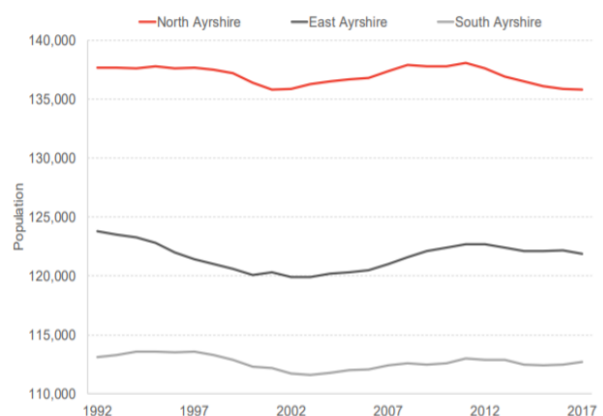
Digital skills are a Scotland-wide constraint, particularly impacting on the excluded groups. Specifically, evidence shows that the level of income influences people's confidence in using the internet and people with physical or mental health conditions are less likely to use the internet.

In North Ayrshire, evidence from the Scottish Household Survey 2015 shows that a higher proportion of adults than in Scotland overall are less confident in pursuing activities when using the internet. These activities include both very basic digital skills (e.g. send and receive emails, use a search engine, shop online) and relatively more advanced skills (e.g. use public services online, identify and delete spam, be able to tell what website to trust).

The lack of confidence in using the internet affects the employability of people overall, as better digital skills may be beneficial for the individuals both at a private level and in the workplace. The ability of using the internet would also counterweight the issue of physical distance (e.g. less need of travelling).

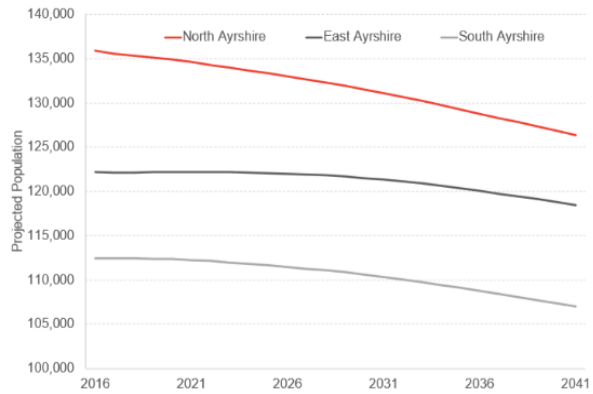
Demographics

In the decade to 2013, the population of the settlement of Kilbirnie declined by 1% this compares to a 0.7% decline across North Ayrshire and a 5% increase across Scotland over this ten-year period. Only five council areas in Scotland and 22 in the UK as a whole suffered population decline in this given period. Over the next decade North Ayrshire's working age population is projected to continue to fall, slowing economic growth and putting pressure on public services.

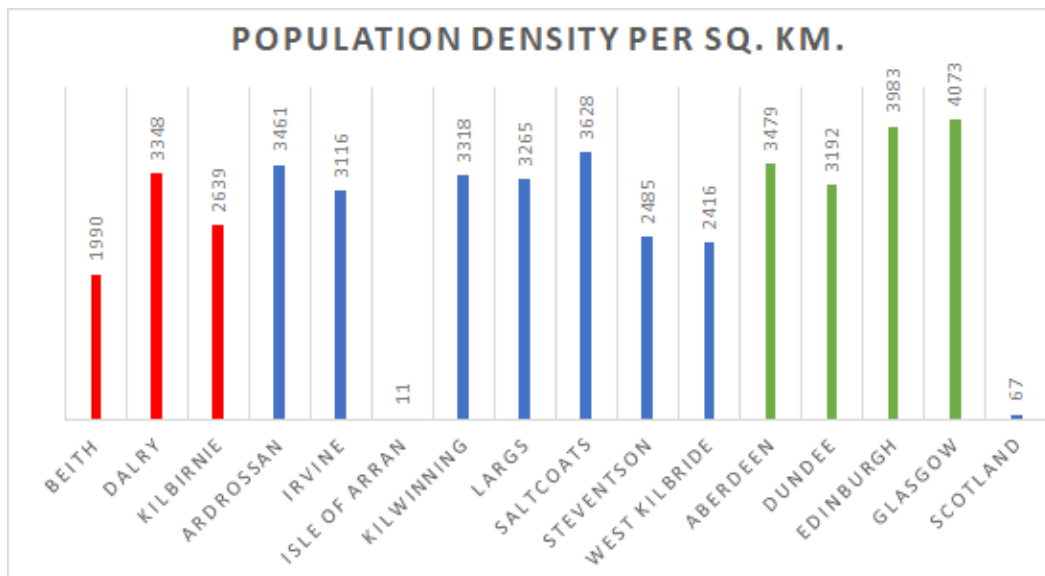


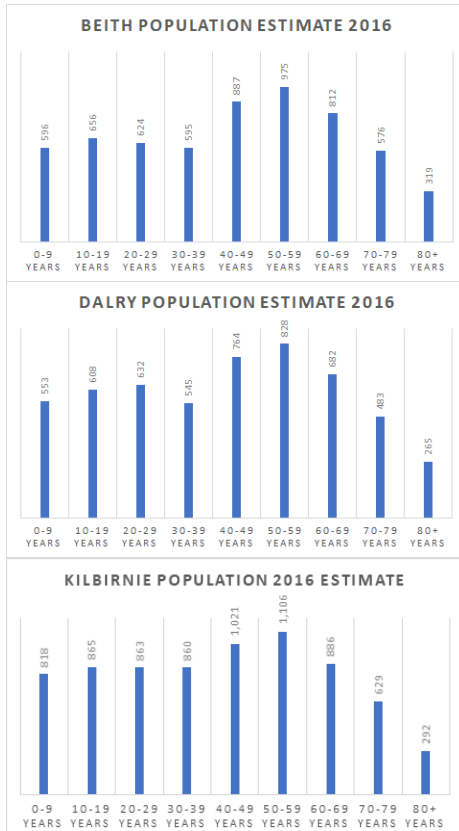
Source: ONS

Between 1998 and 2018, the population of North Ayrshire has decreased by 1.6%. This is the 28th highest percentage change out of the 32 council areas in Scotland. Over the same period, Scotland's population rose by 7.1%. It is anticipated that between 2012 and 2026 the population of North Ayrshire is projected to decrease by 4% whilst the population of the Garnock Valley is projected to decrease by 9%



Population Source: SIMD	
Area	2014 Estimate
Kilbirnie	7,378
Beith	6,424
Dalry	5,896
Garnock Valley	19,698





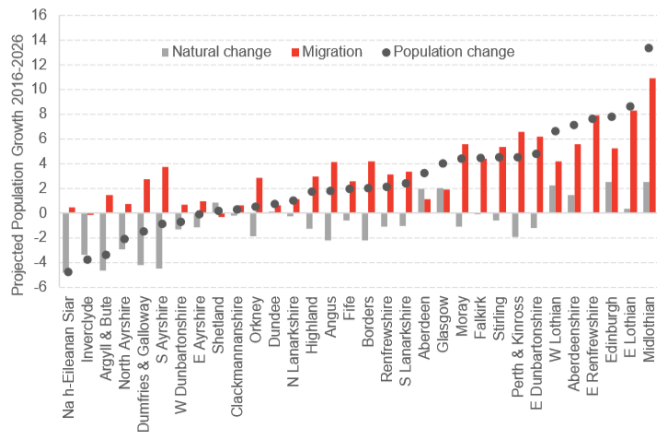
The Garnock Valley accounts for 14.8% of total North Ayrshire population.

A total of 63% of the population of the Garnock Valley are aged 16 – 64. A further 17% are aged 0 – 16, and there is a total of 20% who are aged 65+. Overall, the population is expected to age, with 65 + the only age group projected to increase in size. In the Garnock Valley locality this is projected to increase by 25% and North Ayrshire an increase of 31% is anticipated. The population aged under 18 is projected to decrease by 9% while this group will decrease by 18% in the Garnock Valley. Working age residents will decline by more than 13% across North Ayrshire compared with a 16% reduction in the Garnock Valley.

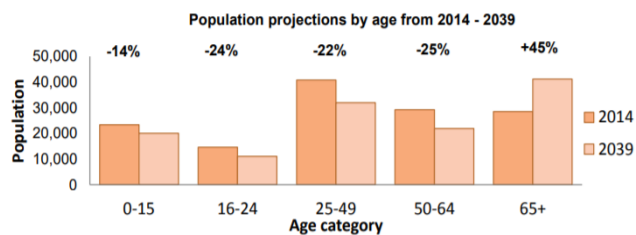
A falling working-age population limits demand in the local economy making it harder to attract business investment and create job opportunities.

Between 2016 and 2026, the population of North Ayrshire is projected to decrease from 135,890 to 133,023. This is a decrease of 2.1%, which compares to a projected increase of 3.2% for Scotland as a whole.

North Ayrshire's working age population is projected to fall by 3.5%, with pensionable age population forecast to grow by 3.2% and population aged 75+ estimated to grow by over 30%. Official National Records Scotland (NRS) statistics predict a 23% decline in the North Ayrshire working age population in the 25-year period between 2014 and the year 2039.



Source: National Records Scotland

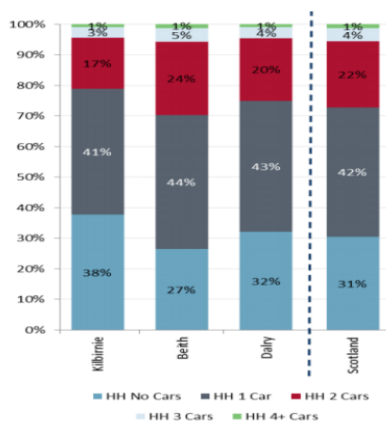


Crime and Justice

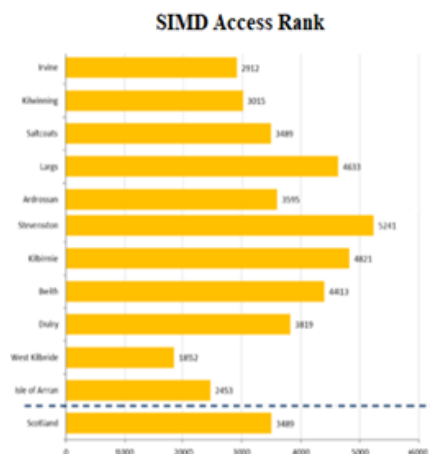
Overall, crime including violent crime and recidivism is a problem in North Ayrshire, in no small part due to lack of economic opportunity, socio-economic background and poor educational prospects. North Ayrshire had a higher **recorded-crime rate - for all crimes and offences - of 920 per 10,000 population** in 2016/17 an increase from 690 per 10,000 population in 2011/12. Scottish Government statistics for 2014/15 show the **Ayrshire Judicial Area has the second highest re-conviction rate in Scotland** standing at 30.7 compared to the Scottish mean of 28.2. The **top priority out of five total of the Garnock Valley Locality Planning Partnership People's Panel Workshops** was the aim *"We live our lives safe from crime, disorder and danger"* indicative of a need to provide an alternative by offering local people opportunities for the benefit of the entire community.

North Ayrshire's prisoner population is **62% higher than the average across Scotland as a whole standing at a rate of 261.5 per 100,000** compared to 161.9 per 100,000 in Scotland. This is also the case for young people in prison which in North Ayrshire was **484.7 per 100,000** compared to 300.2 per 100,000 in Scotland over the period 2012-14

Transport and Access



Access to and affordability of public transport is an issue within the Garnock Valley. This affects access to services such as ability to receive healthcare with limited transport availability to Crosshouse hospital for example. In terms of car ownership **Kilbirnie and Dalry have a higher number of households with no access to a car** whilst Beith has a higher level of car ownership with a higher than average number of households with more than two cars.



The Scottish Index of Multiple Deprivation (SIMD) ranks locations by access to services (GP, post office and retail centres and schools). Data zones are ranked from 1 being least deprived to 6,976 being most deprived. Therefore, the higher the rank, the lower level of access to services. The average of towns in the Garnock Valley are considered to have lower than average levels of access, empirical evidence would also suggest limited access to higher levels of services such as hospitals being inaccessible for many people as well as closures of local services since the SIMD 2016 survey period.

1.3 Health Indicators

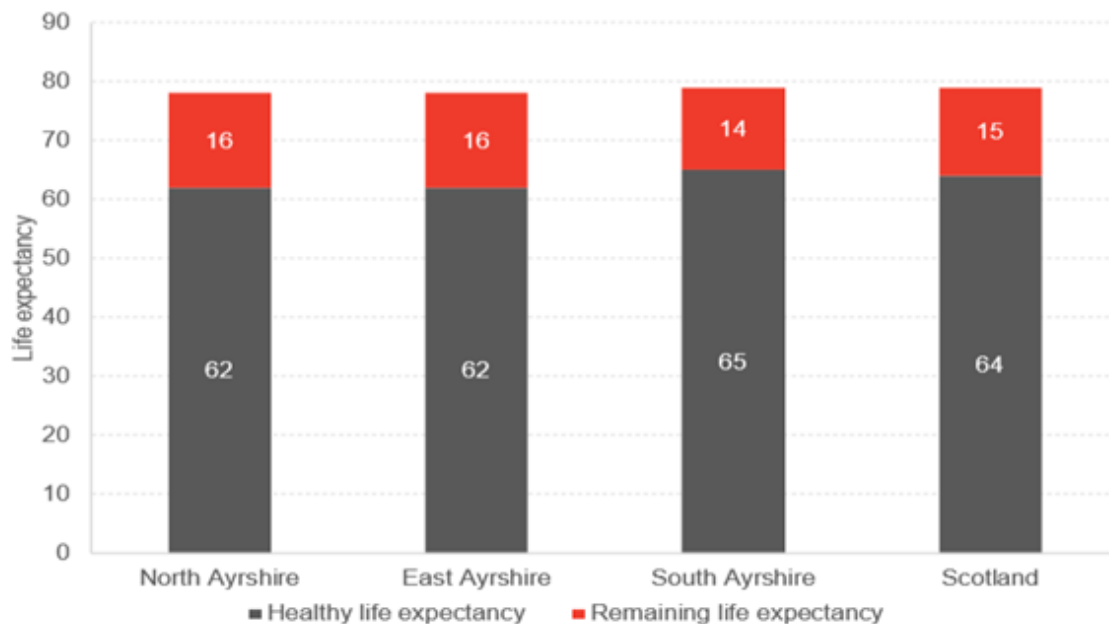
Limited health related data is available at a Garnock Valley level. As such, data presented relates to local authority wide and, where available, reference has been made to more localised data. Overall, **North Ayrshire's poor health outcomes are inextricably linked to factors such as higher social deprivation, and as a result North Ayrshire suffers from issues such as the highest avoidable death rate in Scotland - 373 avoidable deaths per 100,000 people (2016).**

The Garnock Valley Health and Social Care Locality Planning Forum has identified the following priorities:

- Engage with young people to help improve their health and wellbeing
- Improve low-level mental health and wellbeing across all age groups
- Reduce social isolation across all age groups
- Reduce the impact of musculoskeletal disorders

Life expectancy

Average life expectancy from birth in North Ayrshire for males is **6th lowest in Scotland**. For females, average life expectancy from birth in North Ayrshire is the **8th lowest in Scotland**.



Source: Scottish Public Health Observatory

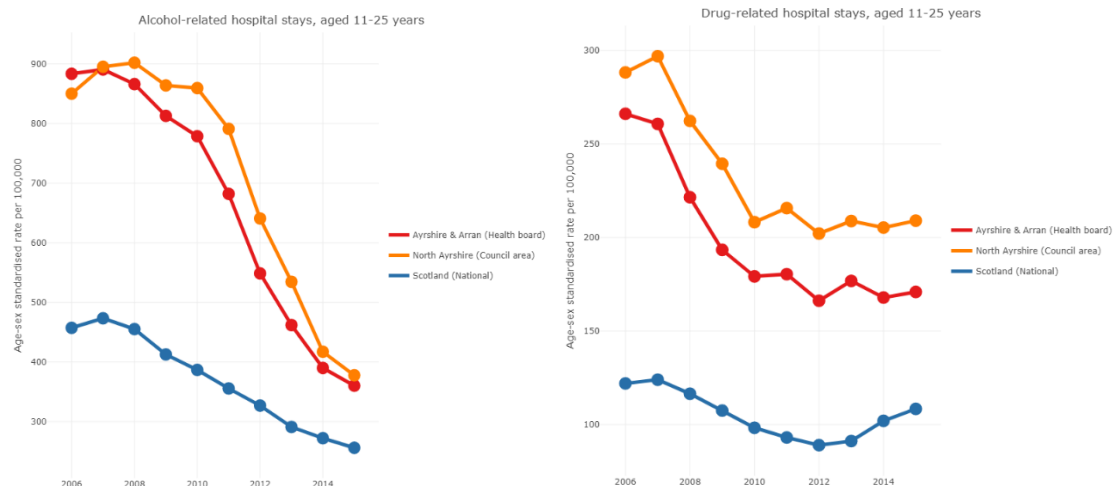
In line with national and North Ayrshire wide data, life expectancy in the Garnock Valley continues to increase; however, male life expectancy in the Garnock Valley locality ranges between 73.3 years in Dalry East & Rural to 78.3 years in Kilbirnie North. **Four out of the six intermediate zones in the Garnock Valley fall below the national life expectancy average of 76.6 years.** In contrast, female life expectancy in four out six Garnock Valley neighbourhoods are above the national average. Overall, the median

male life expectancy in the Garnock Valley is 75.6 years – **approximately one year below the national average and the North Ayrshire rate**, while median female life expectancy is years, above both the national and North Ayrshire rate. Kilbirnie also has **the 9th lowest life expectancy for pensioners in the UK** according to a 2012 report by actuarial firm Towers Watson.

Behaviours

Along with the Irvine locality, **smoking prevalence was the highest in the Garnock Valley locality at 17%** compared with a rate of 15% across North Ayrshire and a rate of 10% in the North Coast. **North Ayrshire has a higher rate of smoking attributable deaths (422 per 100,000)** compared to Scotland and a higher percentage of women smoking during pregnancy (27%).

In addition, **North Ayrshire has higher rates of hospital stays for alcohol (895 per 100,000) and for drugs 342 per 100,000** compared to the Scottish average. Specifically, the Intermediate Zones of Beith West and Kilbirnie South and Longbar have higher rates than the Scottish average, although not different to the North Ayrshire average.



The number of Drug Related Hospital Discharges in North Ayrshire is the highest rate in Scotland – standing at a ratio of 427.9 per 100,000 compared to the Scottish average of 162.2 per 100,000 for all local authority areas. Scotland has the highest rate of deaths due to drug use in Europe, with Scottish Drug deaths, rising by 24% in the latest year, with North Ayrshire being the most worrying statistic of this trend with a 119% increase, the highest in Scotland.

Ill-health and injury

Compared to national figures, North Ayrshire has higher rates of patients (65+) with emergency hospital admissions; patients hospitalised with asthma; patients hospitalised with Chronic Obstructive Pulmonary Disease (COPD); patients hospitalised with Coronary Heart Disease (CHD); and patients with emergency hospitalisations. The Intermediate Zones within the Garnock Valley are similar to the North Ayrshire averages.

Mental health

The proportions of adults with long-term physical or mental health condition is considerably higher in North Ayrshire (47%) than in Scotland as a whole (29%) and a lower proportion of people self-reporting their health as “very good” within the Scottish Household Survey 2015. This represents a significant barrier to inclusive growth.

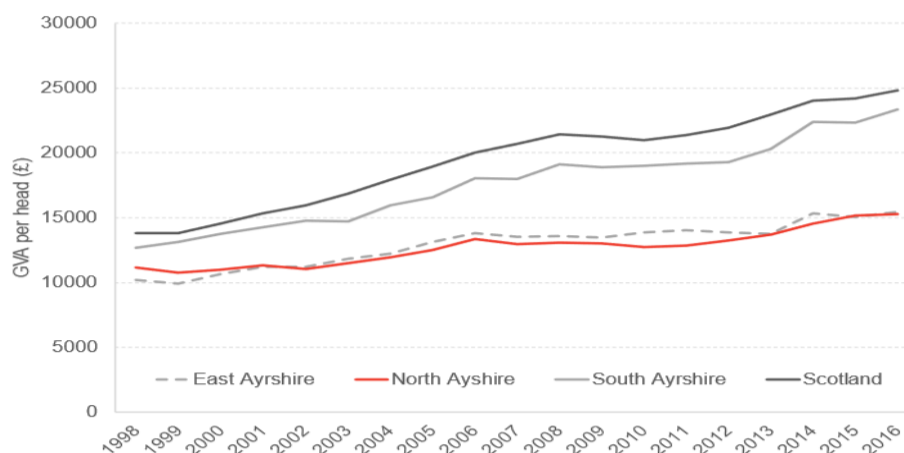
In North Ayrshire a high percentage of young people also face mental health challenges. North Ayrshire has seen an increasing percentage of the population prescribed medication for anxiety/ depression/ psychosis between 2009 (16%) and 2015 (21%).

Aggregated data between 2013 and 2017 shows North Ayrshire with a higher rate of suicide (all persons and males) compared to the Scottish average with the Scottish Public Health Observatory (SPHO) recording a rate of 14.1 per 100,000 population compared to the Scottish average of 13.3 per 100,000 population. Rates for women are lower than the Scottish average.

1.4 Economic Performance

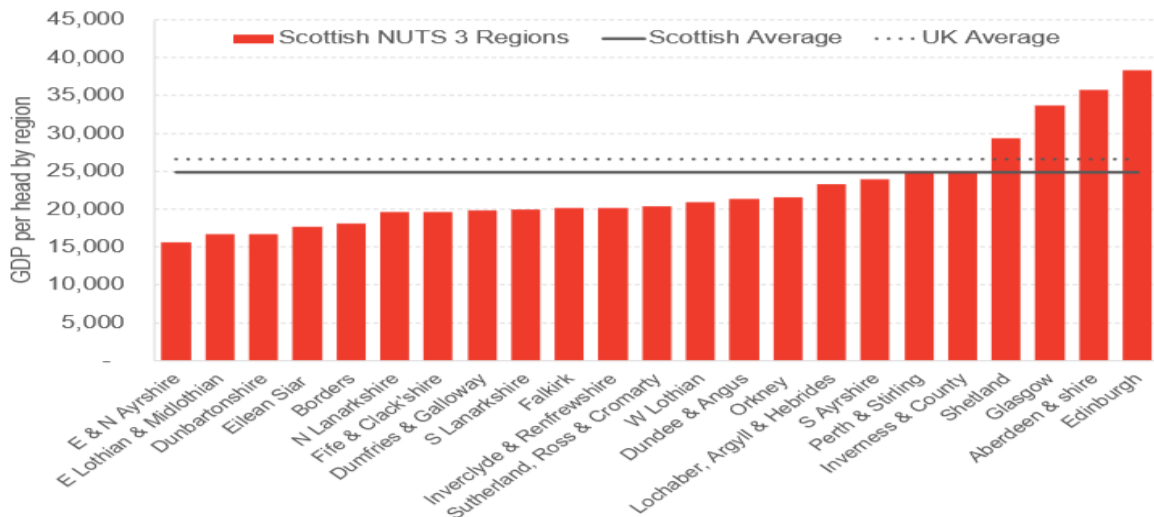
On a variety of economic indicators, North Ayrshire has performed worse than national averages across Scotland and the UK. Economic growth in North Ayrshire averaged 1.1% p.a. between 2006 and 2015 representing the 3rd slowest of all 32 Scottish local authorities, and 54th slowest of the 301 UK local authority areas identified in the Office of National Statistics (ONS) databank.

The GVA of both North Ayrshire has been consistently well below the Scottish average. In the latest available year, GVA per head in North Ayrshire was £15,294, which is 38% lower compared than the Scottish average of £24,800. In the tri-council area, East Ayrshire is comparable at £15,460 and South Ayrshire fares slightly better and is closer to the Scottish average at £23,375. The projected fall in working age population means it will be challenging to increase GVA simply by increasing the number of people working, there will need to be a productivity increase.



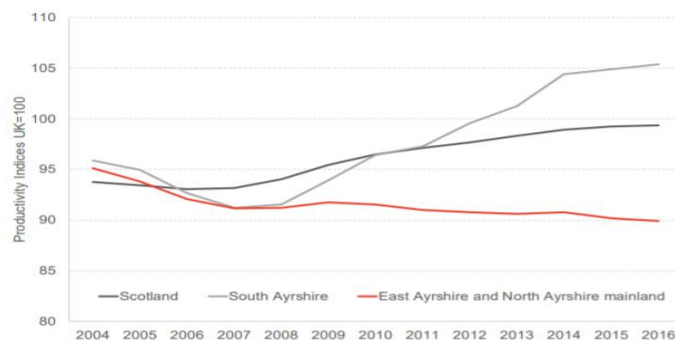
Source: ONS

Nomenclature of Territorial Units for Statistics (NUTS), is a hierarchical classification of administrative areas used across the European Union for statistical purposes. The “NUTS 3” area, is a level of EU geography which combines East Ayrshire with the mainland part of North Ayrshire for measures such as GDP, as can be seen below the NUTS 3 area of East Ayrshire and North Ayrshire mainland has the lowest GDP per head by region in Scotland.



Source: ONS

NUTS 3 statistics also demonstrate that the productivity rate of North Ayrshire is significantly lower than the national average which in turn are also lower than international comparisons of OECD and EU member states. Two key drivers of productivity are innovation and investment.



Source: Scottish Government

In terms of ability to attract investment, evidence shows that North Ayrshire struggles to attract Foreign Direct Investment (FDI), opportunity exists however by supporting endogenous growth and investment. North Ayrshire also has a low Business Research and Development (BERD) at £32 per head compared to the Scottish average.



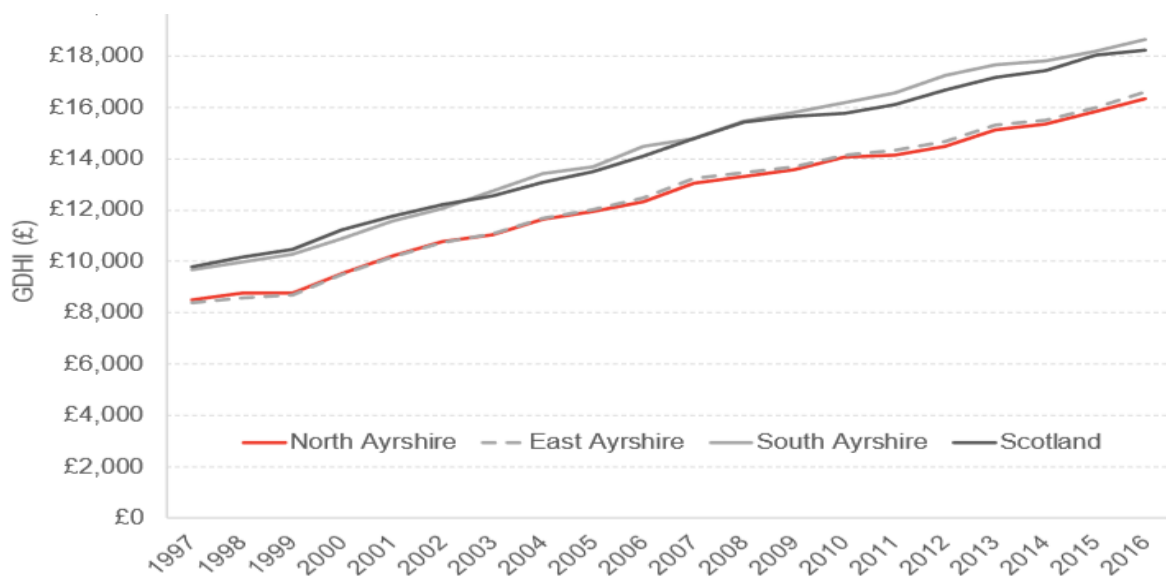
Source: Scottish Government

Household Income

For residents of North Ayrshire average household income in 2015 was £30,537, lower than the Scottish average of £34,625 and the UK average of £36,402. Garnock Valley locality planning documents report that the Garnock Valley has some of the lowest household incomes in North Ayrshire with two thirds of the population of Garnock Valley earning less than £30,000.

North Ayrshire's wage growth is also below the national averages with the 8th slowest in Scotland and 51st slowest of the 391 UK local authority areas identified in the (ONS) files. Household disposable income in North Ayrshire was 0.5% lower than the national average of 3.1% p.a. between 2006 and 2015. In 2017, those earning less than the living wage in North Ayrshire stood at 21.1% in comparison to the Scottish average of 18.4% (ASHE).

This persistent inequality also ranges to financial exclusion as the town of Kilbirnie had the highest bankruptcy rate in Scotland at almost three times the national average personal insolvency rate according to 2014 statistics published by Scottish Government Agency Accountant in Bankruptcy, whilst North Ayrshire is ranked 3rd highest in Scotland overall. There is a high degree of financial exclusion in the locality with only a single bank branch serving the entire Garnock Valley population of circa 20,000 people following bank closures. Personal debt has increased steadily and insolvency rates in North Ayrshire are high. Gross Disposable Household Income (GDHI) measures the amount of money that all of the individuals in the household sector have available for spending or saving after taxes and benefits have been accounted for. This shows a consistent gap between North Ayrshire and the Scottish average, around 13% lower in the latest year.



Source: ONS

A major determining factor on lower levels of disposable income in North Ayrshire is because high percentages of people are in employment in lower-paying sectors (i.e.

wholesale and retail trade, accommodation and food services, residential care activities). These sectors are also characterised by low levels of job progression. Evidence shows that this impacts women and aspiration/ambitions of youth may also be negatively affected in addition to the legacy impacts of post-industrial decline.

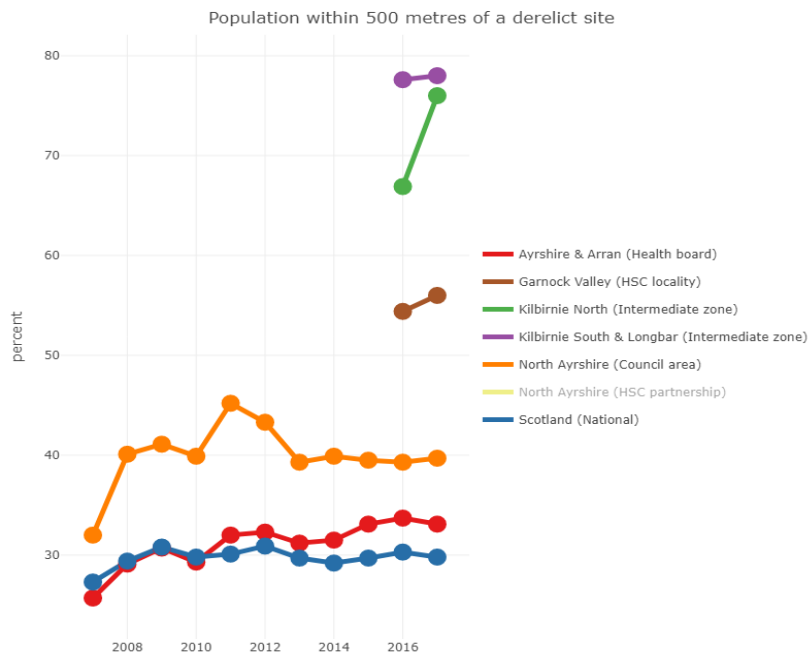
The need to commute significant distances to higher paid jobs can compound challenges of transport and childcare. In 2016, median weekly earnings for full-time employees who reside in North Ayrshire were 2.6% lower than in Scotland as a whole (£523 compared to £537), whereas the median weekly earnings for full-time employees who work in North Ayrshire were 4.7% lower than those for Scotland as a whole (£510 compared to £535). This seems to confirm that people commute to different Local Authorities where jobs are better paid than those within North Ayrshire.

House Prices and Land

The median house price in 2017 in Kilbirnie and Beith council ward was £80,000 compared to £97,000 across North Ayrshire and £152,355 across Scotland. In the Kilbirnie and Beith ward **79.5% of households are in A-C Council Tax Band** compared to 69.3% in North Ayrshire and 60.2% in Scotland and the NRS Registers of Sasines 2015 showed **Kilbirnie to have lowest median house value in North Ayrshire at £60,000.**

Average House Prices 2014 Source: NRS Registers of Sasines	
Area	House Price (£)
Kilbirnie	60,000
Beith	86,500
Dalry	68,750
North Ayrshire	92,000

The Scottish Vacant and Derelict Land Survey (SVDLS) North Ayrshire states North Ayrshire has 1,333 hectares - equivalent to the land area of the “Three Towns” - of vacant and derelict land in Scotland second only to Highland Council which by comparison is 30 times the size of North Ayrshire by area (Highland c. 10,000 sq miles to North Ayrshire c. 340 sq miles).



Within North Ayrshire 39.3% of people live within 500m of a vacant or derelict site 30.3% is Scotland average. 82% of the urban population of North Ayrshire reside less than 500m from a derelict site.

Of the vacant land in North Ayrshire 207 hectares is defined as “urban vacant” whilst the remaining 1,126 hectares is defined as “derelict”.

All of the geographies presented in the graph above show a significantly higher proportion of the population living within 500m of a derelict site, when compared to the national mean. Notably the Kilbirnie North, and Kilbirnie South & Longbar zones, exhibit some 2.5× the national average.

Business

The **business start-up rate in North Ayrshire is lower than the Scottish average**, at 34 per 10,000 resident adults compared to 49 per 10,000 resident adults across Scotland. Overall, there are no significant differences in survival rates for new businesses in North Ayrshire relative to other parts of the country. Like most of Scotland, the majority of businesses in North Ayrshire are micro-business (88.7%), consisting of 0-9 employees, and small businesses (9.5%), consisting of 10-49 employees. Only 1.5% and 0.3% of businesses were medium or large. However, they tend to employ the most people. North Ayrshire also has a lower number of businesses per 10,000 people than both East and South Ayrshire.

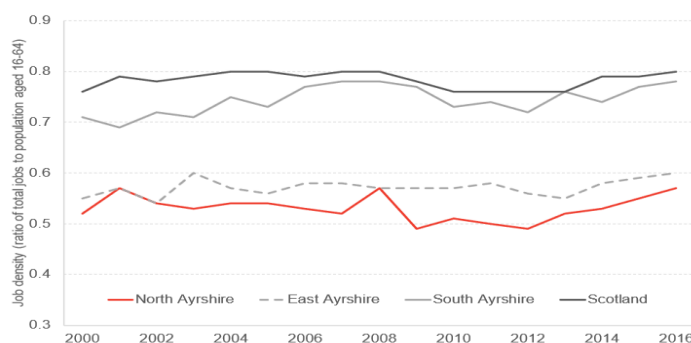
Birth of new Business Enterprises in 2011 and their Survival					
Source: Scottish Government					
Area	1-year survival	2-year survival	3-year survival	4-year survival	5-year survival
North Ayrshire	97%	79%	65%	53%	45%
Scotland	94%	78%	63%	53%	46%

Number and percent of registered enterprises by employment band, 2018		
Source: ONS		
Employment band	North Ayrshire Count (%)	Scotland Count (%)
% Micro (0 To 9)	2,900 (88.7)	153,515 (87.9)
Small (10 To 49)	310 (9.5)	17,745 (10.2)
Medium (50 To 249)	50 (1.5)	2,770 (1.6)
Large (250+)	10 (0.3)	700 (0.4)

Employment

North Ayrshire's **employment rate fell from 68.6% in 2006 to 68.1% in 2017**. Elsewhere, employment rates increased in both Scotland and the UK in this period. The employment rate in North Ayrshire was the **2nd lowest in Scotland and the 56th lowest of the 206 UK local authority areas** defined in the NOMIS (ONS) database. The number of people in North Ayrshire aged over 16 who have **never had a paid or unpaid job increased 2% in the years 2007 to 2017 from 6.5% to 8.5%** equating to a total of 9,400 people who have never experienced work. In 2017, the **number of workless households in North Ayrshire was 24.4%** in comparison to 18% in Scotland and 14.5% across the UK.

The Job Density of North Ayrshire is also lower, standing at 0.58 in 2017 - i.e. there is approximately one job available for every two residents of working age (16 - 64). In comparison, the Scottish average is 0.81 and UK figure is 0.86.



Source: ONS

Measures of jobs density – both in-work and vacancies – give a useful measure of how ‘deep’ a job market is (and often therefore how resilient an economy is). This is one indicator that North Ayrshire seems to perform particularly less well, particularly compared to the Scottish and UK averages.

Those with a **disability are also less likely to be employed in North Ayrshire** with an employment rate of 36.4% compared to 45.4% across Scotland in 2017. The economic inactivity of those aged 16-24 in North Ayrshire is 34.6% (2017), overall **youth employment (those aged 16-24) has also fallen since 2007 from 59.1% to 57.8%** in 2017.

North Ayrshire has an issue with female participation rates, specifically in terms of percentage of females who are inactive due to looking after family/home (33.0% compared to 29.4% in Scotland as a whole). The number of Out of School Care (OSC) school-age childcare places is lower than the number of pre-school places, which suggests a lack of demand/ latent demand due to currently low participation rate of

women. Wrap-around care is identified as barrier for female residents. **Therefore, availability of affordable and flexible childcare is key for removing obstacles of women caring for family/home and therefore increasing inclusion.** The European Commission found that 73% of mothers in the UK who didn't work or worked part time because of inadequate childcare services cited childcare as being too expensive. The OECD has identified affordable, accessible childcare as a factor that **promotes gender equality, and as a factor in tackling the gender pay gap and occupational segregation.** In addition, 'Closing the Gender Gap: Act Now' published in 2012 argues that key to the decision to return to work post-pregnancy is the availability of affordable, flexible, good-quality childcare.

Female employment has risen in recent years; however, North Ayrshire still has the **second lowest employment rate for women in Scotland** at 63.3% (2017) ahead of only Glasgow City. This rise in female employment may indicate an increase in part time and insecure work as is reflected in the wider economy. The period 2005 to 2015 witnessed a rise in the level of self-employment among both men and women. However, **the fastest increase has been amongst women who experienced a 57.6% rise in the numbers self-employed** over the period compared to an increase in men's self-employment of 11.8%

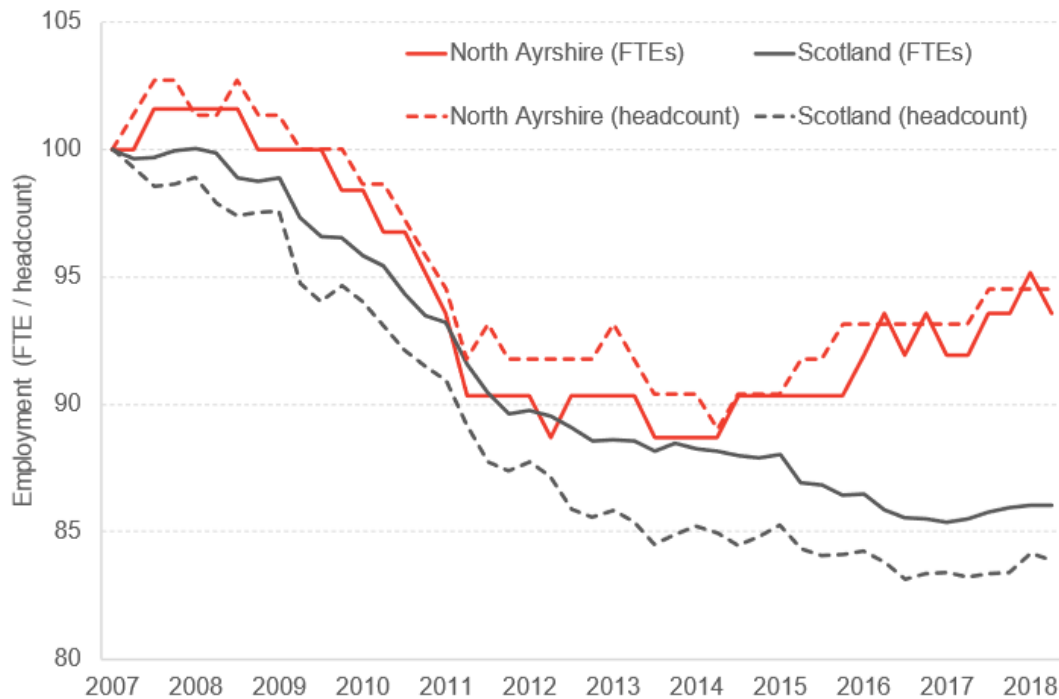
A key trend across the UK since the financial crisis, has been a rise in part-time work and self-employment. Some of this reflects pressure on wages forcing people to take 2nd jobs and/or for a household to have more than one earner. But it also appears to reflect a structural change in the make-up of our economy, with more flexible ways of working. In North Ayrshire, most of the increase in part-time work has come from males. **The share of male employment that is full-time has decreased in North Ayrshire, with the part time share increasing from 9% to 15%.** Some studies – particularly in the United States of America – suggest that such trends might reflect a worrying trend of reduced opportunities for lower skilled men (with significant spill-over impacts on well-being, health and family stability).

Underemployment is also a common issue with official statistics indicating 11.8% (2017) experiencing underemployment in North Ayrshire compared to 8% (2017) across Scotland.

North Ayrshire also has a higher out of work claimant rate than Scotland and the UK as a whole. The claimant count rate in North Ayrshire, at 4.1% (3,425 claimants) in March 2017, was the highest amongst all Local Authorities and considerably higher than the figure for Scotland as a whole, at 2.4%. As of February 2019, the claimant count in North Ayrshire was 5.6% compared with a Scottish rate of 3% and UK rate of 2.6%. With the roll out of Universal Credit the figure is likely to rise as a broader span of claimants are required to look for work than under Jobseeker's Allowance.

1.5 Socio-Economic Analysis

The Radio City Association (RCA) believe that the proposals and benefits set out reveal the strong case for supporting the application. It would be naïve to assume the development would be a panacea that will resolve all societal issues however, it would nevertheless act to resolve issues locally.



Source: The Scottish Government

The above graph shows Local authority employment in North Ayrshire and Scotland since Q1 2007, (Full-time equivalent (FTE) and headcount). This highlights the declining ability for local authorities to tackle socio-economic issues, however **by encouraging and working together with the social enterprise and community voluntary sector genuine grassroots community led change could be empowering and transformative.**

Other areas and communities have adopted this initiative in following a locally owned, controlled and focused project of community ownership. The RCA seeks to follow these and become exemplary to other communities by developing this project which will be capable of **delivering significant, substantial and long-lasting socio-economic benefits.** These benefits and positive impacts will be seen at a project, community and strategic level. Indeed, the approval of this application will **provide immediate benefits to many and assist to realise further community focused and controlled projects to release further potential for growth through people, community enterprise and third sector community organisations that would not otherwise happen.**

In technical economic terms, the **additionality effects will be significant and the follow-on multiplier effects will generate a positive ripple effect in terms of jobs, income and services provided in the local area.** This will all provide enhanced community capability

and capacity building to create a stronger **platform for sustainability and growth, addressing the severe challenges that the area faces** and has faced for many decades.

Other local projects have not had the change effect that this project will provide – it is a **game changer for the community** and can be delivered with confidence. This proposal will be a **shining example of community enterprise and empowerment in action**. This will enable community development led from and by members of the local community to show the **enterprise, innovation and sustainability** working together to create a balanced and valuable project.

The positive effects from this should be recognised and they extend well beyond the immediate returns to the community – this application **will open up creativity in realising the principles and ethos of a local circular economy that delivers for the people**. It will do so in ways that **address deeper underlying issues** including population decline, outward migration of young and skilled people and a vast array of social issues prevalent since the economic decline of the area in recent decades. **This is a community project for community benefit and will be aspirational for local people**.

The statistics outlined above are startling but merely scratch the surface of the case for approving this planning application. There is a litany of other statistics which highlight the need for this type of development. **There is evidence from elsewhere in Scotland that shows how the type and form of development proposed will realise significant benefits and positive impacts**.

Communities, such as the **West Harris Trust and Coigach Community Development Company**, have benefited significantly. Both of these examples are in the Highlands and Islands area which has been an excellent area for demonstrating the power of community led projects to **address issues such as sustainability of communities, local capacity and confidence and self-sufficiency in community economy facilities**. However, the west central Scotland area faces severe challenges that the current planning application would make a material contribution to addressing.

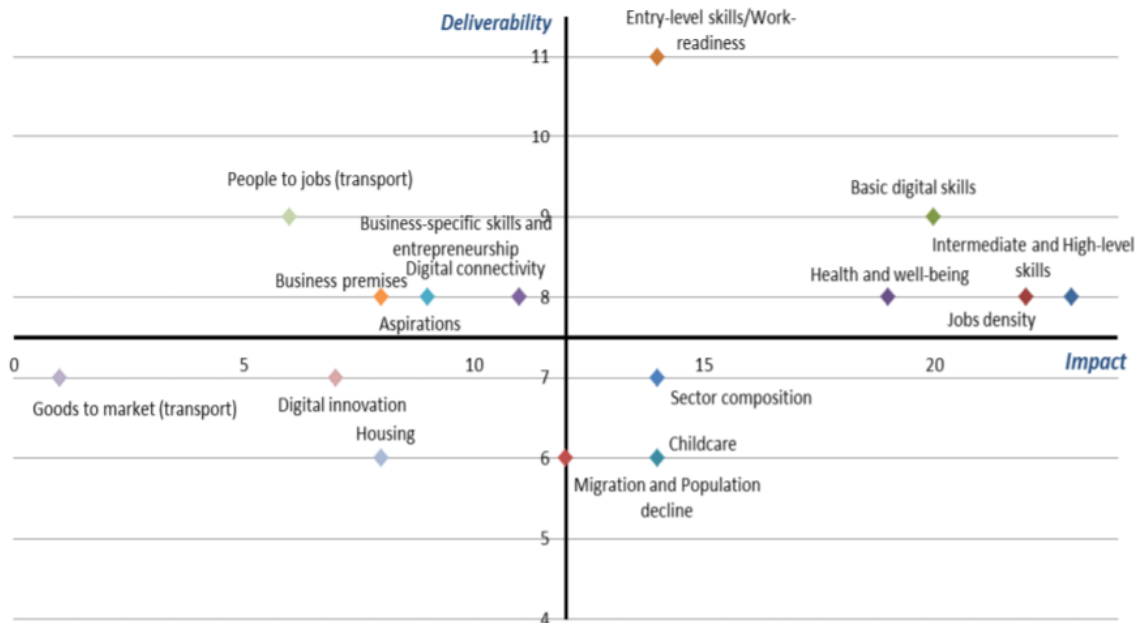
As shown above, **North Ayrshire is one of the most prominent areas in need of this type of project** and many would argue that it should have come forward before now. Community led investment of this type as proposed is needed given the decline of many post-industrial areas including across the Garnock Valley which is a prime example unfortunately. It should be emphasised that it is incumbent on us all to act to support and assist the community realise its true potential.

The Scottish Centre for Regional Inclusive Growth working with North Ayrshire Council developed the Inclusive Growth Diagnostic in order to assess what is holding back long-term sustainable inclusivity and growth in North Ayrshire.

The table below sets out drivers of inclusive growth outcomes in North Ayrshire identified through the inclusive growth diagnostic and a matrix that was developed to demonstrate the impact and deliverability of each of these.

Inclusive Growth Drivers in North Ayrshire

Infrastructure	Slow roll out of digital infrastructure and poor coverage (mobile) Lack of appropriate business premises Housing: energy efficiency and availability of smaller properties Transport (people to jobs) Transport (goods to market)
Skills	Intermediate and advanced skills Entry-level skills/ work-readiness Basic digital skills (which can also limit social inclusion) Digital innovation/ advanced digital skills
Social Capital	Community empowerment Aspirations (individual and business) Health, particularly mental, compounds inclusion challenges Difficulties in accessing affordable and flexible childcare
Value/ quality of jobs	Structure of the economy/ sectors/ industries Availability of local jobs (jobs density) Sustainable working population



It is the strong belief of RCA that **this development can address many of the challenges and socio-economic issues in the local area and promote sustainable and inclusive economic growth.** The evidence and professional views expressed in this paper show the need for the development.

The positive benefits from the development will change the prospects positively for many individuals and community groups currently bereft of such opportunities to **improve their lives and the sustainability of the local community** without further dependency on subsidies and welfare support that is diminishing with prolonged budgetary pressures. **The project benefits and impacts will change lives positively and could literally in some cases save lives.**

If we are to confront the **spectre of climate change in the modern world and the complications presented in this new era by the third industrial revolution** with all the advances forthcoming in terms of automation, digitalisation, biotechnology, Moore's Law and artificial intelligence - all of which offer what could be overwhelming, significant promise of change but could also pose a significant new set of challenges with diffuse benefits and palpable acute effects – then the approach has to be grassroots and community-led in order to tackle some of these challenges that will be presented and will be the touchstone of value in the coming decades, with **promotion of community wealth building to deliver an inclusive economy** through focusing on the role of anchor institutions and others in supporting and developing a sustainable local circular economy where they are located.

This calls for a mission led approach to develop a net job exporter situation and tackle the disproportionate impacts on communities and people that will be introduced by coming challenges of the future. These factors and more make the compelling case for imaginative and predictive solutions from governments and institutions as well as local communities.

There are limits to that which can be done from the community level up, such as the limits of scaling up, critical mass, connectivity between sectors and clustering.

The proposed development is an exceptional approach that will create positive impact, foster local governance and generate a mission led approach to yield true community wealth building and provide inspiration for communities increasing aspirations and reaping the benefits of those auspicious and providential outcomes delivered.

Strategic direction, therefore, is *required* from policy makers and institutions like the local authority in supporting projects such as this.

2. The Electric Valley

2.1 Project Background

The RCA set out to resolve these issues with ambitious regeneration proposals in a developed concept known as the “**Electric Valley**”.

The proposed wind turbine development is at the core of the project providing the revenue to support the re-investment for the sustainable future. **The turbine will become a key economic and social asset for the Garnock Valley Community** and for the future of communities across Scotland and the Scottish wind energy sector as a beacon of the success of community ownership of renewable energy infrastructure.

The economic and social impact will extend beyond the proposed reinvestment and into the construction and operational phases. The construction of the turbine will **support local jobs and businesses as well as the local supply chain**. Upon becoming operational, the turbine will become a key component in the education of local people about the natural environment and climate change

2.2 Re-investment Strategy

The RCA have developed the “Electric Valley” concept with seven areas of strategic focus as highlighted below. The £6 million investment in the community as a result of the development is anticipated to directly **create and safeguard 18 jobs per annum** before taking account of the construction of the turbine itself or multiplier effects as a result of the re-investment or support of the local supply chain as well as various other indirect social and economic benefits that would arise as a result.

Radio City Association’s Seven Areas of Strategic Focus



Economic
Development



Poverty and
Inclusivity



Health and
Sport



Culture and
Heritage



Employment



Community
Empowerment



Environment

Further Detail in Section 5

Economic Development

- Fosters sustainable inclusive economic growth locally
- Supports the growth of social enterprise sector in the locality
- Addresses population decline
- Provides for further ethical investment locally and furthers economic development
- Supports local business growth and expansion



Poverty and Inclusivity

- Tackles educational inequalities e.g. through provision of skills training
- Reduces fuel poverty by promotion of renewable technologies
- Increases public access to services
- Addresses issues of accessibility to transport
- Promotes financial inclusion
- Promotes digital inclusion
- Supports inter-generational cohesion
- Reintegrates ex-offenders into society



Health, Sport and Recreation

- Promotes uptake and accessibility to sport
- Provision or Investment in facilities for use of the community
- Promotes healthy living e.g. through activities or education
- Tackles issues of mental health or social isolation
- Combats drug and alcohol dependency or misuse



Culture and Heritage

- Supports sustainable future for local heritage sites
- Promotes culture, heritage or history of the area
- Provides benefit to community with improved aesthetic of area e.g. art installation
- Educates local people of cultural, industrial or social heritage



Employment

- Develops skills and employability of local people
- Provides opportunity of personal development
- Tackles social issues relating to issues of unemployment
- Provides prospect of sustainable long-term employment to local people
- Offers opportunities for those often excluded from the labour market (e.g. veterans, women, ex-offenders)



Community Empowerment

- Supports local community organisation(s)
- Enables greater community capacity or confidence allowing for greater impact
- Highly involves or is community led allowing community influence over process
- Increases volunteering opportunities
- Improves perceptions of area by local people
- Tackles issues such as anti-social behaviour



Environment

- Provides or promotes use of renewable energy resource
- Educates on effects and measures to combat climate change
- Promotes benefits or utilises renewable or green technologies



3. Anticipated Revenue Returns to the Community

Radio City Association (RCA) were required by the Scottish Government's Community and Renewable Energy Scheme (CARES) Board to provide a **P90 Net Energy Yield** (GWh/annum) to determine the project's financial feasibility prior to their approval of loan funding to allow RCA to proceed with the development in early 2018. RCA commissioned Prevailing Ltd (who also provide this service to the CARES Board) to produce this independent estimate which they did on the 1st April 2018.

The **P90** is the lowest estimate of the three estimates produced for RCA by Prevailing Ltd. which also include **P50 & P75** estimates in a highly technically detailed Energy Production Estimate Report.

The **P90** is the level of annual electricity that is forecasted to be exceeded **90%** of the year, hence this is always the lowest figure. It is also the figure that funders require to lend upon as it presents the greatest certainty of future performance.

Prevailing Ltd. used wind speed data to analyse and model the landscape against the proposed candidate turbine, a **Nordex N90/2500** which has a total rated capacity **2.5 MW**, with a Hub height 65 m.

Prevailing Ltd. determined the average hub height wind speed would be **8.02 m/s**. This allowed for production of an indicative **P50** net energy yield of **8.56 GWh/a** and an estimated 10 year **P90** net energy yield (indicative) **7.44 GWh/annum** based on a Capacity factor of 39.0 %.

RCA then engaged Forsa Energy, a wind energy business who have developed and operate energy assets across Europe, to calculate the potential revenues from the sale of the energy produced which is displayed in Table 1 below.

Table 1

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038		
39% CF																						
Nordex N90/2500 2.5MW 65m HH	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	7440	148800
NO FIT Payment	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
GBP @ 0.050\$/kWh	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£7,484,640
Gross GBP / yr	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£374,232	£6,097,640
Annual O&M + Insurance/yr (estimates)*	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000	£73,000
Net GBP/yr	£374,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232	£301,232
	£374,232	£675,464	£976,696	£1,277,928	£1,579,160	£1,880,392	£2,181,624	£2,482,856	£2,784,088	£3,085,320	£3,386,552	£3,687,784	£3,989,016	£4,290,248	£4,591,480	£4,892,712	£5,193,944	£5,495,176	£5,796,408	£6,097,640		

*O&M Estimates	Cost £/Annium
WTG O&M 2.5MW	£51,000.00
Grid O&M	£1,000.00
Rent	£2,000.00
BoP	£2,000.00
Insurance	£5,000.00
Metering/LV Supply/Comms etc.	£4,000.00

Turbine Supply Cost	
Nordex	£ 2,055,000

*rental redacted for landowner commercial confidentiality

Source: Forsa Energy

Forsa produced the above spreadsheet for RCA using the Prevailing data. The data used was again the **P90 lowest estimate also taking account of no support via the Feed in Tariff (FIT) scheme**. Forsa also used an indicative Power Purchase offer (PPA) from Good Energy to underpin their revenue estimates.

As the above highlights, Forsa Energy and Prevailing Ltd have **determined independently of RCA in figures approved by the Scottish Government** utilising their joint resources and wind speed data that the candidate Nordex N90/2500 2.5MW WTG located at the proposed RCA Community Wind Turbine Site would produce **£6,097,640 net revenue over the period 2019 – 2038**.

This revenue would be used to repay loans and interest with the **net surpluses fully re-invested** in local community projects as per the Scottish Government CARES Financial Model. It is the ambition of RCA that these projects would also be fully sustainable and provide re-investment to allow the community to develop and prosper for the long-term future and leverage of external funding.

The net revenue is of course calculated on the **lowest estimate** of the Prevailing P90 figure of an annual output of 7440 MWh/a, and also based on receiving no support via the Feed in Tariff in a **No-FiT scenario** and Export rates of £0.0503 per kWh based on a proposed Good Energy PPA and conservative average capacity factor of 39% and payment of annual Operation and Maintenance (O&M) + insurance/grid costs.

It is worth noting that since these estimated revenues were produced the UK Government have proposed the **Smart Export Guarantee (SEG)** to Community owned and operated energy schemes of less than 5MWs. It is also worth noting that the projected lifespan of the WTG is 25 years and therefore *5 years additional net revenues* of a minimum of £301,232 p.a. or **£1,506,160** should be added to the revenue projection minus any decommissioning costs over a 25-year period.

In addition, revenues from the community hydro scheme in partnership with Scottish Water will improve this financial position with anticipated revenue returns over the 20 year lifetime of the Electric Valley Project.

A 'Community Fund' provision will also be established based on the Scottish Government's preferred rate of £5k/MW of electricity produced. As currently configured, this would generate a fund of £12,500 per annum for the Wind Turbine and approximately £5,000 per annum for the Hydro Turbine i.e. **£350,000 combined over 20 years**, that RCA can distribute directly to local people and community causes in addition to the directed and targeted "Electric Valley" projected re-investment of the remaining **£8m - £10.65m**.

It is worth pointing out at this juncture, in relation to the above, that the reason why revenues for investment from a community owned renewable energy development are so materially more beneficial for the communities it serves is because **ALL** the revenues so generated are re-invested back into the Community whereas in relation to 'Community Benefit' only a small proportion of the overall revenues being generated are returned to the Community by way of the £5k/MW standard payment favoured by commercial developers and the Scottish Government.

This means, by direct comparison, that the single RCA wind would return more in community investment to the Garnock Valley area than all the other wind turbines currently deployed in North Ayrshire Council area return in 'community benefit' to **ALL** the communities of North Ayrshire combined

The RCA has developed the following funds within the Community Benefit component of the revenues from the renewable energy, with the focus of providing long lasting benefit to individuals and organisations within the Garnock Valley as well as fostering community spirit, promoting wellbeing and enabling community development in accordance with the charitable objectives of the RCA Constitution.

Radio City Association (RCA) Education and Training Bursaries Fund

The Fund is open for applications from any adults (aged 16+) of the community of the Garnock Valley who wish to develop their skills and who are undertaking courses delivered by accredited organisations and recognised training providers. This includes prospective and current students at colleges or universities, apprentices, and any adults wanting to undertake further training/ skills development.

Bursaries are for a maximum of £500.00 per applicant per financial year for those aged 16+ – but no more than £1,500.00 in any 5-year period.

Radio City Association (RCA) Supporting Children and Young People Fund

This Fund is open to support children from birth to the time that they, as young people, exit secondary education. Note that this Fund is for individuals to enable them to access activities or obtain equipment that will support their development. Awards are for a maximum of £500.00 per applicant per financial year – but no more than £1,500.00 in any 5-year period.

Radio City Association (RCA) Wellbeing Fund

This Fund is open to support individuals (aged 16+) living in the Garnock Valley to participate (including to perform) in a range of arts, cultural and natural heritage, leisure and recreational, and scientific events, non-certificated/informal lifelong learning courses and activities. Awards are for a maximum of £500.00 per applicant per financial year – but no more than £1,500.00 in any 5-year period.

Radio City Association (RCA) Small Grant Fund for Organisations

This fund is open to community organisations (voluntary bodies, etc.) that want to apply for funding up to £500.00 for a project which meets one of RCA's wide-ranging charitable objects and which will benefit the community of the Garnock Valley

RCA as well as setting up a community benefit fund that communities and individuals can bid into independently, will in addition be re-investing ALL the remaining revenues in community owned and operated projects within the "Electric Valley" that will create a massive legacy benefit for the Garnock Valley in accord with the Constitution the RCA.

4. Socio-Economic Impact

4.1 Quantifiable Effects

The P90 Figure revenue has been determined **independently** by Prevailing Ltd. and Forsa Energy and **approved by the Scottish Government (CARES) Board**. The P90 offers a conservative estimate of the anticipated performance of the proposed wind turbine, and it is stressed that these are **minimum expected returns**.

Using the estimated revenue figures, it can be determined what a transformational impact community ownership of renewable resources could have. Based upon the estimated minimum return of circa **£6million over 20 years which equates to £300,000 re-investment per year**, it can be quantified that the following tangible examples could be provided as set out in section 4.2 as a result, and that this represents significant investment in people and communities that would otherwise not be realised.

4.2 Examples of Impact in Numbers

- A. **30 Bursaries to allow economically disadvantaged local young people to enter further or higher education every year** (£10k per person per annum – Source: Skills Development Scotland)
- B. **60 Modern Apprenticeship Schemes per year providing life changing opportunities to attain skills and future employment for young people or ex-offenders** (£5k per person per annum – Source: Skills Development Scotland)
- C. **75 homeless people locally could be provided housing for one year** (Average net weekly household payment consisting of rent, heat and power £76.10 – Source: COICOP - ONS)
- D. **500 people could receive support of 10 Sessions of Mental Health Counselling** (£10-£70 indicative cost per session for private treatment (Assumed cost of £60) – Source: NHS)

4.3 Analysis of Potential Impact

The socio-economic impact of this potential re-investment set out in examples A-D in section 4.2 and its possible impact both upon lives and relieving of constrained public finances can be demonstrated qualitatively using empirical data collected from academic and other reputable sources.

Examples A and B

The RCA turbine could prospectively provide funding which would pay for 60 apprenticeship schemes for local young people or provide ex-offenders with training opportunities to prevent re-offending or 30 bursaries for economically disadvantaged young people to enter further education.

Research carried out by the Centre for Economics and Business Research (Cebr), a leading economic consultancy, determined the benefits to the UK economy of apprenticeships. It was determined **that for every £1 that is spent on apprenticeships, the national economy gains £21**. This is high in comparison to other expenditure returns on investment in the innovation, research and technology sectors range from around £4 – £7 per £1 spent. In addition, apprentices are more **likely to be in employment for longer, and will receive higher earnings**, with wage premiums of 11% for intermediate-level apprentices, and 18% for advanced-level.

If these training opportunities were to be provided to ex-offenders there are wider societal benefits as well as increased life prospects for that individual. The national re-offending rate average is **25% within 6 months of release and is 54% within 1 year, this rate drops to 4% when in employment or training** based on empirical evidence of organisations such as Together Group who provide skills training to ex-offenders. Again similarly, if local young people were provided with these employability skills and training opportunities the North Ayrshire economy will benefit as will the life prospects of those young people

Similarly, this is the case for university graduates who are likely to earn more and be in employment than those without a tertiary education. Research by Universities UK has highlighted that over a working life, the representative individual with an undergraduate qualification will **earn between 20% and 25% more** than his or her equivalent holding two or more A-levels. In addition, Higher education qualifications do not just affect earnings. Individuals in possession of higher education qualifications are **more likely to be employed** compared to those with the next highest level of qualification. They are also **more likely to return to employment following periods in unemployment or economic inactivity**.

This benefit does not just extend to university education but also further education at colleges. The **benefits of an HNC / HND qualification are £35,000-£45,000** based on average gross additional lifetime earnings.

A college or university education and apprenticeships create **benefits to the economy in terms of employment, increased skills and wage earnings** and reflective statistics such as GDP and GVA but also benefit wider society by providing **opportunity of personal development of the individual**.

Example C

The average weekly amount spent on the spending Classification of individual consumption by purpose (COICOP) category of housing (net), fuel and power was £76.10 FYE 2018.

This consists of net rent (rent payments that the householders meet themselves, after housing benefits and any rebates received by the household to help pay for rent have been subtracted) as well as the costs of fuel and power.

The causes of homelessness, including rough sleeping, are complex; however, a lack of affordable housing could be one reason. Taking the example of providing housing for

75 individuals for one year, research shows that effective early interventions **reduce the personal and financial cost of homelessness**.

The Centre for Housing Policy in the Department of Social Policy and Social Work at the University of York determined the **cost of a single person sleeping rough in the UK for 12 months was £20,128**. This is a high cost to the public purse in addition to the numerous adverse effects homelessness has upon the individual and is in stark contrast to **the cost of intervention of £1,426**.

Evidence shows that people who experience homelessness for three months or longer cost on average **£4,298 per person to NHS services, £2,099 per person for mental health services and £11,991 per person in contact with the criminal justice system**.

Research conducted for the Scottish Government has indicated that **NHS service use is 24 per cent higher among homeless people in Scotland** and previous research has suggested that homelessness **increases reoffending rates** (among people with criminal records) by 20 per cent.

By providing housing for 75 individuals for a year, the RCA community turbine prospectively **could save the public purse £1,509,600** as well as **freeing up public services** such as the NHS or justice system to deal with other pressing issues and have positive impacts for individuals who may have been homeless integrating them into society.

Example D

Mental health can have a devastating impact on an individual's daily life and have impacts for the economy. An OECD study found that the cost to the UK of **mental health issues was 4.5% of GDP each year**, caused by productivity losses, higher benefit payments and the increased cost to the NHS.

Mental health problems can **prevent individuals from finding work** if they are unemployed and have the **potential to be life threatening**.

5. What Will Be Achieved

5.1 Summary

Some of the proposed projects for re-investment are in the preliminary stages as set out in the **Planning Supporting Statement**. The projects mentioned are only the start of wider ambitions of the RCA, it is the intention of the membership led organisation of the RCA to have the **full involvement of the Garnock Valley community** in developing projects and targeting this re-investment locally as we have already endeavoured to do so with local organisations in our initial proposals.

As set out previously in **Section 2** RCA has established the **Electric Valley** concept with seven areas of strategic focus as a criteria for projects in order to tackle socio-economic issues in the Garnock Valley:

- **Economic Development** - RCA aim to create a circular local economy by investing in sustainable community led projects which also then can re-invest in people and the community as well as supporting local businesses in diversification
- **Poverty and Inclusivity** - RCA will seek to address social issues such as poverty including fuel poverty and promote social inclusion through projects with activities focused on financial inclusion, digital inclusion and tackling of social inequalities.
- **Health and Sport** – RCA will provide investment in facilities for recreation and promotion of healthy living and sport as well as seek to tackle social issues such as addiction and address mental health issues and promote wellbeing
- **Culture and Heritage** – RCA projects will promote cultural, industrial and social heritage through activities such as provision of public artwork and promotion of art and cultural projects.
- **Employment** – RCA projects will provide employment opportunities that will be skilled and well paid as well as provide employment skills and promotion of education
- **Community Empowerment** – The Garnock Valley community will be involved fully in all projects from conception to delivery with an ability to influence all aspects of the project.
- **Environment** – RCA will promote the natural environment and natural heritage and tackle climate change through sustainable development, carbon reduction projects and education.

These criteria have been the strategy for the embryonic proposals for re-investment in the Valefield and Knox Institute projects as set out within the planning support statement.

5.2 Job Creation

Neil MacCallum a co-author of this report who has over 30 years experience of economic analysis with the OECD, National Audit Office, Scottish Enterprise and the Scottish Chambers of Commerce has created the econometric model to assess the potential job creation which is likely to result from the annual re-investment in prospective projects funded from the development in the Garnock Valley.

Based on evidence garnered from UK based projects on cost per job, utilising the HM Treasury Green Book - Regional Development Agency Appraisal Evaluation Guidance, annual investment of £373,000 would create / safeguard a net of **18 jobs per annum** (created or safeguarded) with **job life of 10 years minimum**.

These jobs would be **liable to be longer lasting given the evidence** on persistence and self-containment which the the UK Government Department of Communities and Local Government recognised is much 'stickier' in deprivation areas - such as SIMDs within the Garnock Valley. This however requires to be caveated by the fact that this relates to Small & Medium sized enterprises rather than social enterprises and community enterprises/groups per se, such as those liable to be the principle beneficiaries of the planned development investment. There is no suggestion however, that such jobs would be any less 'long term'.

The relevant calculation therefore is:

$$\begin{aligned} & \textit{Revenue} \div \textit{Cost per job} \times \textit{Multiplier Effect} \\ & \pounds 373,000 \div \pounds 30,000 \times 1.25 = 15.5 \end{aligned}$$

Construction jobs additional at £145,000 (2.5 jobs a year) which results on a net total of **18 jobs per annum** - based on Regional Development Agency (RDA) evidence from England (2003-15).

Taken over the period of the twenty five year operational life of the development therefore, **the job effect is likely to be even greater** given the labour intensity of many of the projects to be supported.

In addition, the economic **multiplier effects will add further rounds of benefit** (from indirect expenditure and induced spending/inter-trading) with additional net positive impacts in the local economy. All this will **increase capacity, resilience and sustainability** emphasised by the RCA's strategic approach to creating and assisting projects that can **become anchors in the economy and local community rather than short lived ventures** reliant on funding and a small pool of dedicated people. These projects have the ability to be **transformational and inspirational with the potential to become exemplary**.

This is based on the book calculation and local calibration from actual projects – such as the 5 full time jobs RCA expects will be created directly from the projects in the first

year. The calculation is also projected from the net job creation effect applied to comparable circumstances in England.

5.3 Economic Impact Qualitative Assessment

According to **North Ayrshire Council's Social Enterprise Strategy (NASEN)**, the size of the social enterprise sector in North Ayrshire is **below the Scottish average** with only 98 Social Enterprises recorded as operating in North Ayrshire out of 5,199 in Scotland, a rate of 1.88% in comparison to North Ayrshire's population share of 2.5% and significant share of levels of deprivation which would indicate a greater need for Social Enterprise.

There is a demonstrable need for social enterprise, charities and the wider third sector to work together to create an alternate local economy and provide a level of services to seize upon the currently untapped potential of the sector in order to create local job opportunities, grow the local economy, support local people through social projects and ensure that redevelopment is community led providing a sustainable future for local people.

6. Other Impacts and Future Impacts and Benefits

6.1 Development and Construction Potential

The RCA wind turbine will support employment while the project is being developed and during its construction both directly and indirectly in the supply chain. In total the capital expenditure during the development and construction phase of the development will be approximately £2.25 million, which is equivalent to £0.9 million per MW installed. This expenditure will be split between:

- Development;
- Balance of plant;
- Turbine; and
- Grid connection.

The economic impact of the expenditure is dependent on the sectors in which the money is spent, and the location of this expenditure. It is estimated that during the development and construction phase the RCA turbine will support 8 job years and generate approximately £1.4 million GVA to the Scottish economy. These assumptions were taken from previous BiGGAR economics research for RenewableUK based on the Northern Irish onshore wind industry.

6.2 Decommissioning Potential

The decommissioning of the RCA wind turbine in 25 years time would also represent an economic opportunity for the companies involved in this process. It is assumed that the expenditure on decommissioning this turbine would be approximately £125,000 and that the location of the companies involved would be locally based. This would be a short-term activity that could support a total of 2 job years and £0.2 million GVA.

6.3 Environmental Benefits

The wind turbine is expected to displace 2.3 million Kg Co2e annually based on a very low estimate of the capacity factor of 30%. The P90 figure which was produced independently by Prevailing Ltd and approved by the Scottish Government anticipate the minimum capacity to be 39% based on their analysis of wind speeds and topography. The carbon payback of the development is demonstrated in the calculation below:

$$\frac{\text{Capacity (2500KW)} \times \text{Assumed Efficiency (30\%)} \times \text{Hours in a Year (8760)}}{\text{Average Annual Scottish Household Electricity Consumption (4122 KWh)}}$$

This allows for an energy supply for 1594 homes, which is equivalent to displacement of CO2 emissions of 2,309,914 kgCO2e annually when compared to home supplied by UK National Grid. Energy accounts for 25% of the UK's CO2 emissions, the efforts to reduce this and supply renewable energy is rightly supported.

The figure of 2.3 million kg CO2e displaced annually is equivalent to removing approximately 600 cars from the road every year of the proposed operational period of 20 years. Transport accounts for 26% of the UK's CO2 emissions and is a leading cause of air pollution and premature deaths as a result with one estimate the Royal

Colleges of Physicians and of Paediatrics and Child Health stating **air pollution contributes to 40,000 early deaths a year in the UK.**

The UK Climate Change Risk Assessment 2012 Evidence Report estimated the cost of climate change and identified the main future risks. It estimates that **annual damages from flooding alone could increase to £12bn by the 2080s**, an increase of about ten times compared with current-day estimates if action isn't taken to tackle climate change. In addition, the United Nations Report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has warned that **1 million species are facing extinction if radical action is not taken to combat climate change.**

The model predictions of the impacts climate change could have are not certain. There is much that science does not yet know, and wider social and economic trends will also affect the UK's vulnerability to the effects of climate change. These range from an ageing population who have greater vulnerability to extreme heatwaves – to population growth and increasing household and industry demand for water. However, in order to **combat climate change and meet international obligations reduction of carbon emissions must be encouraged** and this development assists in that global effort in a small but meaningful way.

The cost of not acting is too great, RCA believes that the next generation has the potential to be the greatest generation, however we are fast approaching a situation where they could be the last if action is not taken to tackle the nefarious impact that global warming will have on the planet and all life on it.

6.4 Farm Diversification and Rural Development Opportunity

The proposed development **assists in farm diversification** a key aim of the council by supporting a local dairy farm's operations and sustainability.

In addition, there is potential for **Power Purchase Agreements (PPA's)** to be agreed with local businesses which will allow them to secure cheaper electricity reducing overheads and allowing for their future **sustainability, expansion and development** securing jobs in the local area and supporting the local economy and local enterprises.

6.5 Tourism, Recreation and Education Benefits

The development has the potential to be **beneficial for tourism and recreation by enabling improved access to the Clyde Murshiel Regional Park**. Other wind farms, such as Whitelee have joined the Association of Scottish Visitor Attractions after nearly 250,000 visitors, including 10,000 school children were attracted there between June 2009 – June 2012.

In addition, at least another 100,000 people had accessed the wind farm's trails for **recreational purposes such as walking and cycling**. There are multiple benefits associated with this potential increase in future recreational activity including **health and wellbeing benefits with such as improvements to cardio-vascular and mental health** from physical activity such as walking. Added to this is the social benefit of experiencing nature and education of children on climate change and the natural

environment. **Radio City propose to collaborate with, local walking groups, local schools and the Priory Education Group to facilitate recreational and educational access to the turbine and assist with curriculum studies on the natural environment.**

Evidence shows that visitor numbers to the CMRP have increased with wind turbine developments ongoing as the graph below highlights. Visit Scotland Surveys have indicated that intentions to visit a place are unaffected by wind turbine development with 83% saying it would not impact their decision to visit, if anything the Garnock Valley's tourism industry will be bolstered by the improvement in access and re-investment in facilities proposed.

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