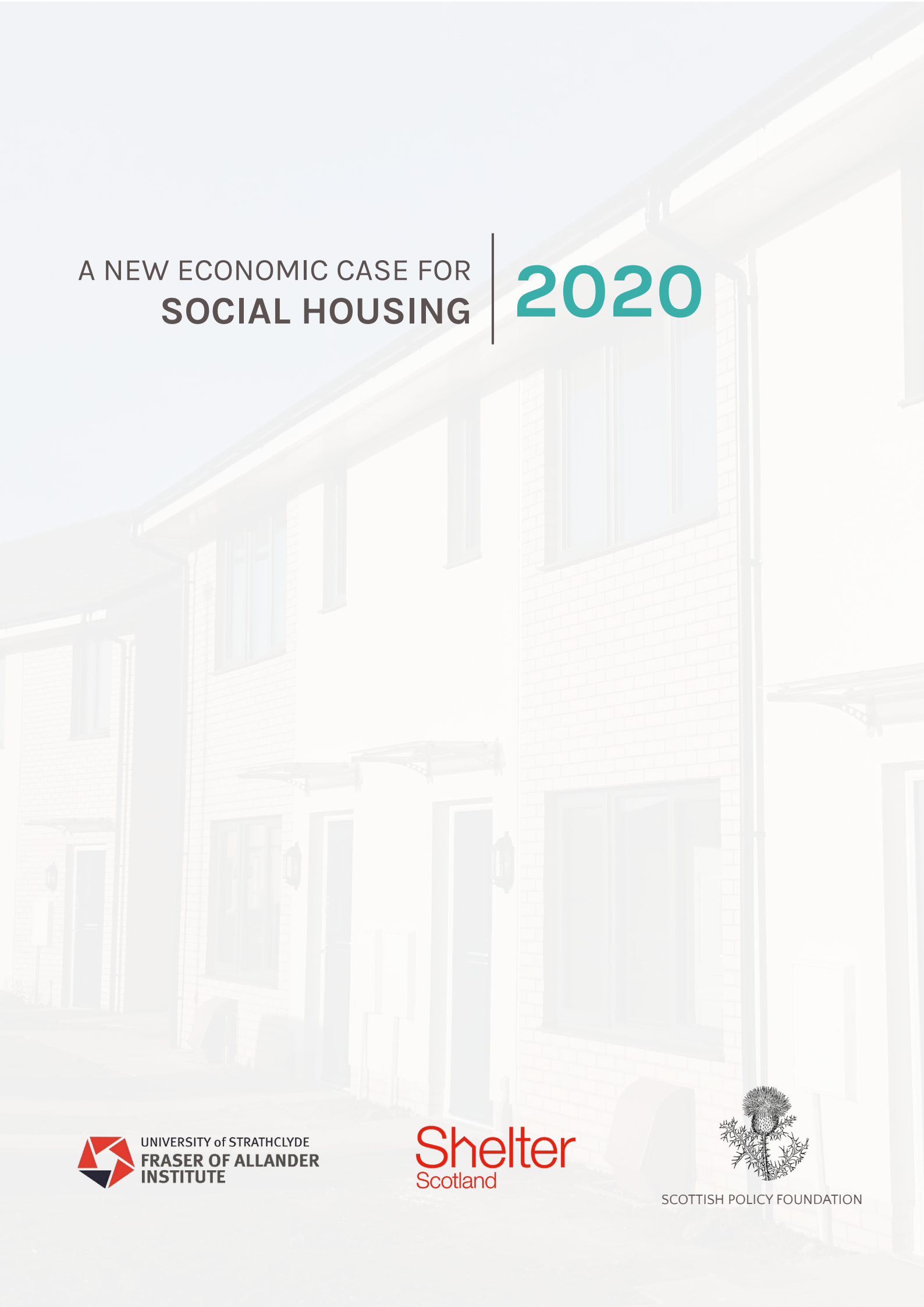
A NEW ECONOMIC CASE FOR SOCIAL HOUSING 2020



UNIVERSITY of STRATHCLYDE
FRASER OF ALLANDER INSTITUTE

Shelter Scotland

SCOTTISH POLICY FOUNDATION

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SOCIAL HOUSING

2020

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Preparation of this report was guided by a steering group comprising:

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- Jackie Killeen, Member, Shelter Scotland Committee
- Gordon MacRae, Assistant Director, Shelter Scotland.

The Scottish Policy Foundation provided generous support and that allowed the Fraser of Allander Institute to undertake the econometric modelling that produced the impact measures used in the report. Bob Back provided valuable comments on a draft of the report. Shelter Scotland is very grateful to all of these partners.

The report was written by Stephen Boyle and Jess Husbands.

The idea for this report was conceived in 2018 by Graeme Brown, then Director of Shelter Scotland. He had long campaigned for homeless people and promoted the cause of decent housing, finding little difficulty in persuading people of the moral case for building more social homes. Yet he sensed that such arguments were often not enough.

Around the same time an international group of housing specialists – including Ken Gibb and Duncan Maclennan of the University of Glasgow – had been looking at new arguments for housing investment. In particular, they had begun to develop evidence showing that housing contributes to 'hard' economic outcomes such as productivity growth. They believed that in deciding whether to invest in social housing, governments should think about its economic consequences in the same way they do for roads, public transport and other infrastructure, as well as considering the shelter benefits.

This report takes up the threads left by the international experts and makes a new case for social housing. It sets out the evidence about how investing in housing expands the labour force and boosts productivity, as well as the employment and income benefits that would result from building 35,000 social homes between 2021 and 2026 and then maintaining them.

£4.0
BILLION

Providing houses to people who would have been homeless boosts the supply of labour. That is estimated to add £4.0 billion of gross domestic product (GDP).

£1.5
BILLION

When children live in decent houses their educational attainment and health improve making them more productive in later life. That would add £1.5 billion of GDP.

£6.4
BILLION

Building the houses and maintaining them would add up to £6.4 billion of GDP and generate an average of 900 jobs per year.

The report goes further than the economic case alone. In following the lead of Bob Black's Commission on Housing and Wellbeing it recognises both that economic impacts are not the only things that matter and that social housing contributes significantly to wellbeing in the round. It identifies how investing in social housing will contribute to Scotland achieving outcomes for education, health, communities and poverty that feature in the National Performance Framework, as well as illustrating how best social housing can support climate objectives.

A report presenting an evidence-based case for investing in social housing had been Shelter Scotland's intention when the project began in late 2019 before the tragedies of the coronavirus. Whatever our collective priorities were before then they will be different in the future. We have had to think about the implications of the virus for the case for social housing.

We recognise that as Scotland adapts to a world in which much greater priority attaches to public health and to resilience these activities will rightly move towards the front of the queue for funding. Not least because the public finances will be stretched there will be less left over for other activities. That reinforces the importance of evidencing the benefits that will flow from investing in social housing.

The core of our argument had been that as well as delivering jobs and incomes, social housing enhances wellbeing. Much of that is a consequence of the effects of housing on health and on education. These effects have become more relevant with COVID-19.

People who live in sub-standard accommodation or who are homeless are more likely to develop conditions that compromise their immune systems, while overcrowding can make it easier for infections to spread. Children living in unsatisfactory housing arrangements already suffered an educational penalty. School closures are likely to have an especially adverse effect on them, not least because poor quality, overcrowded and temporary accommodation is not a supportive environment for home schooling.

If anything, therefore, the need for the health and education benefits that social housing delivers is greater after the disruption to schooling and the physical and mental health shocks of 2020. And investment in social housing is a highly effective way of rebuilding jobs and incomes.

Scotland should build 35,000 social houses for rent between 2021 and 2026 at an estimated cost to the public purse of £500 million per year. That would help to: provide homes for some of the 43,000 people, including 14,000 children, and 30,000 households who are homeless; offer warmer, safer and more affordable homes for the four in ten families who live in substandard accommodation and the one in ten whose house is damp or suffers from condensation; and give greater stability to people whose housing arrangements are uncertain.

To many people, making sure that Scotland is a country where there is decent housing for everyone is reason enough to invest. While agreeing with that, this report goes beyond the moral case. It demonstrates that investing in social housing will contribute to enhancing the lives of Scots in a host of ways, from improving health and education to tackling climate change and reducing poverty. And it will deliver conventional economic benefits of more jobs and higher incomes.

This approach to gauging the benefits of investing in social housing is consistent with a worldwide move towards assessing what makes good lives and successful countries. It is reflected in Scotland's National Performance Framework, which describes the country Scotland wants to become. While social housing is not the silver bullet that alone will lead Scotland to be that country, the goods it promotes and the harms it prevents will make important contributions to getting there.

Scotland will be a better country in the round if it invests to provide more social housing.

This report sets out the evidence about those benefits as well as the costs. The strongest evidence shows that social housing causes desirable outcomes. For example, stable housing arrangements that allow children to remain in the same school rather than moving too often cause them to do better in education. However, causal relationships can be difficult to establish. Someone whose home is damp and whose health is poor may also have a low income that makes it difficult to pay for heating and food. In these cases establishing precisely the causes of poor health and the contribution of housing might not be possible. When that is the case, the report relies on the weight of evidence: is there a volume of good quality research that clearly and consistently demonstrates an association between housing conditions and educational attainment, health or other outcomes? Is the same suspect frequently spotted at the scene of the crime?

Why social housing? The people who suffer most from homelessness, poor quality accommodation and unstable housing arrangements are often, not always, among the poorest and most disadvantaged Scots. They have few, if any, viable market solutions and the features of social housing make it the best option for them, and others. It is more affordable than the alternatives. Tenancies are secure and stable. Properties tend to be well managed. Often, by encouraging tenant involvement in managing houses, there are opportunities for personal and community development. The people who secure social homes are the people who need them most.

The report consists of the following sections :

Section 2 develops the case that social housing can help to deliver the type of country that Scotland seeks to be, delivering higher incomes, more jobs, greater equality and increased wellbeing.

Section 3 shows how good housing can lead to better educational outcomes while section 4 demonstrates that good housing improves health. Together, better education and health boost economic performance by increasing the supply of labour and the productivity of the workforce.

Drawing on the evidence in sections 2 to 4, section 5 presents estimates of the economic impact of building and maintaining 35,000 new social homes as well as the effects of increasing the labour supply and boosting productivity.

Section 6 evidences the links between housing and community cohesion and section 7 explains how social housing reduces poverty.

The final section explains how best a programme of social house building can contribute to tackling climate change.

SECTION 2

BUILDING MORE SOCIAL HOMES IS GOOD ECONOMICS AND GOOD FOR WELLBEING

Since Devolution in 1999, faster income growth and a more equal division of that income have been the economic priorities of successive Governments. Different words have been used to describe these goals including 'sustainable growth' and 'inclusive growth', with the Purpose statement of the National Performance Framework seeking both. More recently, the focus has been on a 'wellbeing economy'. Regardless of the words used, the view about what actions to take to achieve growth has been consistent. It requires either more 'inputs' – such as machines, infrastructure and, crucially, people – or/and the more productive use of inputs.

This section describes how investing in social housing can both boost the quantity of inputs and their productivity. Much of the argument and evidence rest on the effects of housing arrangements on people's health and education outcomes. The latter part of this section describes how investing in social housing would reduce inequalities and enhance wellbeing.

Good housing provides the economy with more 'inputs'

Investing to create new assets is one way to provide more inputs. That is why investment is one of the four 'pillars' of Scotland's Economic Strategy. Typically, investment is thought of as spending on items such as transport or digital infrastructure, or the buildings and equipment that businesses use. However, the Strategy includes housing in its conception of investment and says that, "an adequate and affordable supply of housing is essential for growth." The Infrastructure Commission for Scotland has said that good quality, affordable housing is an important component of promoting growth. In the UK, more than one third of the infrastructure investment fund that supports the industrial strategy will be spent on housing.

One reason to invest in housing is that it can increase the quantity of the country's 'human capital' and the number of people in work is an important 'input'. In 2019, three out of four Scots aged 16-64 were in a job. At the same time fewer than one in three homeless people was working. As No One Left Behind, the Scottish Government's statement on employability policy recognises. 'Lack of work is both a cause and consequence of homelessness"

> **Providing homes for all 30,000 homeless adults would not alone raise their employment rate to 75% but even halving the employment rate gap would mean there were an extra 6,500 people in work."**

Moving into social housing raises a person's chance of being in work. That is because having a house supports people in both gaining and sustaining employment.

Securing a home boosts self-esteem and confidence, making it more likely that people try to find work. In Australia, a government survey found that two out of three people said that living in social housing made them, "feel more able to improve their job situation." Knowledge that a tenancy is secure makes the effort of looking for work more likely to pay and, thus, more likely to happen. At a practical level, it is easier to apply for jobs if there is an address for correspondence. Prospective employers will have greater confidence in the reliability of an applicant who has a home than one who does not.

Once in work, someone who has a secure home is better able to stay in the job. First, being settled rather than having to move frequently makes life more straightforward. That means there are fewer obstacles to being at work every day. Second, people who have decent and secure housing arrangements enjoy better health than those who do not. Better health means fewer sickness absences. Both of these factors enhance the reliability of employees in the eyes of employers. Third, an important way of sustaining employment is to enhance skills, something that is more likely to happen if housing arrangements are settled. The Australian survey found that, seven out of ten people living in social housing felt, "more able to start or continue education or training."

Roads and bridges, buildings and machines, and fibre optic cables and software are all essential economic infrastructure. So are houses. Investing in them increases the country's 'human capital inputs' by enabling more people to find and hold on to jobs.

Good housing boosts productivity

When describing how incomes grow, Paul Krugman, the Nobel prize winner, wrote that :

> "Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."

Investing to provide people with secure and stable housing boosts productivity in three ways.

First, it affects productivity directly. Better housing leads to better health, making it more likely that children and young people make the most of education and training. In addition, good housing itself boosts educational attainment by providing continuity in school, stability in life and a safe and secure place in which to do homework and study. These benefits of good housing directly enhance the quality of the country's 'human capital', which, in turn, is crucial to productivity growth. Importantly, these effects are especially important for the very young, meaning the benefits to human capital formation and productivity are long-lasting.

Second, building the right types of houses in the right places makes it easier for people to access jobs that match their skills and to travel between home and work. Employers benefit form a deeper and richer pool of people from which to choose. These factors enhance productivity.

Third, not only does good housing provide benefits in the form of better health and education outcomes it helps to avoid costs that would otherwise be incurred. These include direct costs to health, education and other public services. At the same time, good housing complements other investments, enhancing their impact. For example, children who have to move from school to school because their housing arrangements are unstable are more likely to be disruptive in class and their teachers have to spend more time going over material already taught rather than moving on to new aspects of the curriculum. The whole class is disadvantaged. Similarly, just as they are more likely to sustain a job when properly housed, adults are better able to undertake and complete education and training to the benefit of the country's human capital.

Good housing helps to reduce inequalities and boosts wellbeing

Scotland's aims are often described as 'inclusive' or 'sustainable' growth and, more recently, the achievement of a 'wellbeing economy'. Terms like these reflect the desire that as well as increasing the size of the economic 'pie' its 'slices' should be distributed more equitably. They also recognise that human and community wellbeing depend on more than income alone and that equality is a value and outcome that is prized.

As well as enhancing growth, investing in social housing would play an important role in increasing equality. Scotland's Economic Strategy says it is essential for tackling inequalities while the Infrastructure Commission for Scotland recognises that housing can contribute to, "the delivery of Scotland's ambitions of eradicating child poverty and homelessness, ending fuel poverty, tackling the effects of climate change and promoting inclusive" growth.

The Commission on Housing and Wellbeing made a powerful and evidence-based case that good housing is central to a good society. Getting housing right has benefits for health, education, environmental quality and community cohesion. In its 2019-20 Programme for Government, the Scottish Government recognised that, "Everyone needs a home – a safe, warm place to live, feel secure and have a sense of belonging. Home is part of physical and emotional health and wellbeing." At a very practical level, the guidance the Scottish Government gives to local authorities about how to prepare housing strategies emphasises the role of housing in wellbeing.

The remaining sections of this report provide evidence about just how good housing contributes to wellbeing while poor housing damages it.

SECTION 3

GOOD HOUSING LEADS TO BETTER EDUCATIONAL OUTCOMES AND, THUS, HIGHER PRODUCTIVITY

Scotland wants to be a country where, "we are well-educated, skilled and able to contribute to society." Much of that ambition is measured through pupils' attainments at school. When families live in good quality houses, confident that will be able to stay as long as they want, children do better at school.

This section presents evidence about the links between housing and education. It shows how better quality housing and giving families certainty and stability about their housing arrangements would contribute to raising educational performance and to delivering the goals of education policy. For example, closing the attainment gap does not depend only on what happens behind the school gate, it relies on contributions from a range of sources, including housing.

Stability and mobility

When families have stable housing arrangements children achieve better educational outcomes. If families have to move house and, so, change school, perhaps because a tenancy is lost, educational performance suffers. The greater the number of moves, the bigger the adverse effects. A weight of evidence shows an association between stable housing and educational performance. More importantly, when allowances are made for family income, parents' backgrounds and other factors that affect how children do at school it is clear that stability in housing arrangements causes better educational outcomes.

Changing school because you have had to move house affects educational achievement through a number of routes.

While all of Scotland's schools aim to impart the same knowledge and skills to pupils, individual schools and classrooms move at their own pace and in their own style. A pupil who remains at the same school – or who moves rarely and only between sessions – benefits from continuity. Someone who moves frequently, especially during a session might find that they have missed material that the new school has covered but the old school had not. Teachers can find it challenging to assess the needs of mobile students.

Children build up friendships with their peers. The same is true of relationships with teachers. These links are maintained and strengthened as pupils progress through school. Strong relationships contribute to academic success. It is more difficult for pupils who have to move from school to school to forge and sustain such links.

Frequent house and school moves put parents and children under stress. That is impedes success in education.

With frequent moves resulting in disruption to learning, difficulties in developing and maintaining relationships and added stress, it is not surprising that absenteeism is higher among children whose housing arrangement are unstable than among their stably-housed peers. Higher rates of absenteeism make it harder for children to keep up with the curriculum.

Remaining in the same house and at the same school boosts the chances that a family can develop a lifestyle that supports learning. Frequent moves, however, can make life chaotic at home, undermining opportunities to study and do homework.

Overcrowding

Children who live in overcrowded accommodation face a very obvious constraint on their ability to get on at school: the likely absence of a quiet, safe and comfortable space in which to study and do schoolwork.

Overcrowding affects educational performance in other ways, too. Overcrowding increases stress on children, which, in turn, can lead to a wider set of health problems, hindering progress at school. Parents experience greater stress in overcrowded circumstances and can find it hard to support their children's school work. Children living in overcrowded spaces are more likely than others to become socially withdrawn and that negatively affects their performance at school. These stresses result in children from overcrowded homes being more likely to experience and exhibit behavioural problems at school and at home, resulting in poorer educational outcomes.

The impacts of overcrowding are apparent in a number of ways. Children are more likely to fall behind their peers, including in basic skills like reading and maths, to develop more slowly a range of skills that are essential to making progress in life and to leave school early.

Quality of housing

Overcrowding aside, the quality of a house matters to educational outcomes. In particular, cold housing is directly associated with poor educational performance . When the fabric of a house is unsatisfactory the people who live in it are more likely to develop health problems and that adversely affects how children do at school. Health is often, too, the cause of higher rates of absence for pupils who live in poor quality accommodation. In contrast, primary school age children who live in good quality houses are more likely to behave well in school and to show greater perseverance in their work.

Homelessness

The factors that adversely affect children who live in poor quality and overcrowded accommodation are intensified for homeless children. They are more likely than their settled peers to repeat years at school, leave school early, be disengaged while at school and have behavioural problems. In each of these areas, homeless children do worse than children who have low incomes and also have a house. In tests, homeless children achieve significantly lower scores than their peers after controlling for levels of intelligence, while specifically in maths, reading and spelling, homeless children score lower after controlling for other family factors.

Affordability

When housing is affordable, children are more likely to progress through school at the expected pace, to demonstrate good behaviour in school and to be engaged with their work. Housing that is unaffordable leads to many of the problems described above including more frequent changes of school and difficulties for parents in providing a safe and nurturing environment that supports good educational outcomes.

Effects on the classroom and education policy goals

It is children who are homeless or who have unstable, unaffordable or poor quality homes whose education suffers most. However, their circumstances affect their peers and teachers, too. That is largely because teachers have to spend more time going over work that had previously been undertaken rather than pushing on with the curriculum at the intended pace. The behavioural problems that children with adverse housing conditions present can also be an obstacle to the rest of the class. As a result of these factors, in schools with highly mobile populations general student achievement is lower and pupils score lower marks in tests. So significant can these wider impacts be that the various changes to education that are often either implemented or proposed such as smaller classes, lower pupil-teacher ratios, improved facilities, testing and accountability, "all are seriously undermined, if not made irrelevant, if the classroom is a revolving door."

Long-term impacts

The effects of being exposed to poor housing conditions as a child endure. That is especially true of frequent changes of school and the effects of these are greatest and longest-lasting when they happen frequently and at the earliest ages. Students' performances in English and maths decline with each move. The achievement gap between well- and poorly-housed children widens over time. Being homeless before reaching school age leads to less well-developed non-verbal skills. Repeated moves while in primary school raise the chance of violent behaviour in school by 20%. Later in life, children who have struggled to complete school because of housing problems are less likely to find work.

Conventional economic impacts

This section has shown that poor housing adversely affects what children and young people achieved at school. One consequence is that their 'human capital' – the skills they bring to the workplace and to life – are less well developed than they could be and in comparison with their peers who enjoy safe, stable and decent housing.

Lower human capital will lead to lower productivity. In turn, that means lower pay and a higher likelihood of being out of work. From a conventional economic perspective, therefore, the damage that poor housing does to educational outcomes affects the economy once people leave the education system and start to make their way in the world of work.

What is especially important, and a crucial source of subsequent low productivity and low earnings, is that poor housing is affecting children when they are very young. Nobel Prize winner James Heckman has shown that the chance of people achieving a 'good' life – doing well at school, getting a job, developing relationships, staying healthy and out of trouble – is more likely when children get a good start. When they do not, it is very difficult for them to catch up later and that is especially true of the effects on educational attainment, skills development and, thus, subsequent productivity and earnings. In this way, good housing today generates wider economic benefits, as well as personal ones, tomorrow.

SECTION 4

GOOD HOUSING LEADS TO BETTER HEALTH, REDUCES HEALTH COSTS, ENHANCES EDUCATIONAL OUTCOMES AND CAUSES HIGHER PRODUCTIVITY

Scotland wants to be a healthy country. The National Performance Framework says that, "we regard the health of all our people as being of utmost importance." It recognises that, "our health is dependent on a wide variety of factors and actors and we therefore need to take a whole system approach to promoting good health and activity."

Housing can play an important role in making Scotland healthier. Bad housing, homelessness and housing insecurity cause poor health and premature death: the average age of death of a homeless person is 47 years. The death rate among people who had been homeless or threatened with homelessness at some point between 2001 and 2016 was twice as high as in Scotland's most deprived communities and five times the rate in the least deprived.

This section presents evidence about the links between housing and health. It shows how better housing would contribute to making Scotland a healthier country, not just today but well into the future. And it demonstrates how social housing investment can save money for the NHS while giving a long-term boost to economic performance

Mental health

According to the NHS Confederation, "good housing is critical for good mental health,". People with a mental health condition are four times more likely than others to say that it has been made worse by their housing. GPs report that housing is commonly involved in patients' mental health problems, either causing them or making them worse. A housing concern has adversely affected the mental health of more than one in five adults in the last five years; that is equivalent to almost one million Scots.

In Scotland, 30% of people who had experienced homelessness between 2001 and 2016 reported a mental health problem compared with 21% in the most deprived parts of the country. The link between housing and mental health is especially strong among children.

For example, more than one in four adolescents living in a cold home are at risk of multiple mental health problems compared with one in 20 adolescents who have always lived in a warm house.

Overcrowding is directly related to poor mental health. Almost nine out of ten people living in overcrowded houses report that depression, anxiety or stress were the result of cramped living conditions. Those who live in an overcrowded house are less satisfied with their lives than those who do not. Overcrowding often makes it difficult to sleep and that adversely affects mental health.

The condition of a house is probably most associated with its effects on physical health. Yet its attributes are so important that they can predict a person's mental wellbeing. The evidence is clear that, "living in poor quality housing for extended periods of time has negative consequences for mental health," and that people who live in bad housing are at greater risk of low mental wellbeing. A survey found that one in five adults living in bad housing had low mental health compared with 14% living in good housing. Even after allowing for the effects of people's incomes, better quality housing is related to lower levels of psychological distress. Mould, cold and damp worsen mental health. In contrast, improving housing conditions has been shown to improve mental health, especially among children.

Finally, insecurity, including homelessness is an obvious risk to mental health. The stress it causes is likely to exacerbate existing vulnerabilities and worsen people's wellbeing. One survey found that 45% of homeless people had been diagnosed with a mental health condition compared with 25% in the general population. Homeless people are 12 times as likely as the general population to have been diagnosed with depression, between two and six times as likely to have either a bipolar disorder or schizophrenia and at least 40% more likely to have a personality disorder. Frequent house moves lead to behavioural problems among children and are associated with depression in children and women. More than half of people who had been homeless or in temporary accommodation reported that they suffered from depression.

Physical health

Similar factors affect people's physical health.

Overcrowded accommodation can be a breeding ground for disease, especially among children, who are more likely than adults to experience overcrowding. There is evidence that children who live in cramped conditions are more likely than others to develop serious conditions such as tuberculosis and meningitis. They also have higher rates of intestinal and respiratory infections.

Among adults living in overcrowded accommodation, there are signs of higher death rates than in the general population, especially among women. Adults who experience overcrowding are more likely to suffer from tuberculosis and respiratory illnesses.

Overcrowding also has indirect impacts on physical health. Cramped accommodation can often mean little space to store and cook food leading to greater reliance on take-away and convenience foods, with adverse consequences for diet.

"Housing is an agent of health or illness for children," as the differences between bad and good houses show. Children who grow up in damp or mouldy homes are between one-and-a-half and three times more prone to coughing and wheezing than children living in good houses. This reflects the fact that dampness is associated with asthma, chronic respiratory conditions, headaches, fever, nausea, vomiting and sore throats among children. Children living in cold homes are twice as likely as others to develop cardiovascular diseases and they have higher probabilities of contracting minor illnesses. People in cold homes report generally poorer health than those in warm homes and one in five of the excess deaths related to cold weather in England and Wales in 2014-15 was caused by cold housing.

Table 1 Proportion of people reporting long-standing physical health conditions

Condition	Homeless people, %	General population, %	How many times more likely that homeless people have the condition
Heart & circulation	7.7	10.0	0.8
Stomach	10.4	2.6	4.0
Urinary	4.7	1.5	3.1
Eyes	14.2	1.4	10.1
Chest & breathing	15.2	5.8	2.6
Joints & muscular	22.1	13.9	1.6
Skin	7.6	0.8	9.5

Source: Homeless Link, The Unhealthy State of Homelessness

The health consequences of homelessness are stark. More than four in ten homeless people have a long-term physical health condition compared with 28% in the general population. As Table 1 shows, homeless people are much more at risk of developing a range of conditions, from ten times as likely to have eye or skin complaints to almost three times as likely to report chest and breathing problems. Being homeless can make it difficult to manage and cure physical illnesses, often turning minor conditions into serious ones. In part, that is because homeless people are less likely that others to be registered with a GP. In addition, typical remedies such as bed rest, a good diet and taking medication regularly – in fact taking temperature-controlled medicines like insulin at all – are much more difficult for people who are homeless.

Long-term impacts

A feature of the impacts of housing on health is that they are long lasting.

Studies that track people over many years find that adverse housing experiences in childhood:

- lead to increased coronary heart disease rates; and
- a 25% rise in the risk of having severe ill health or a disability by adolescence.

The effects of growing up in an overcrowded house are especially long lasting as this is linked in adulthood to increased risks of :

- respiratory problems;
- contracting the helicobacter pylori bacterium, which is associated with stomach cancer and other digestive tract illnesses;
- being depressed at the age of 23; and
- impaired social interactions.

Homelessness, affordability problems and overcrowding are all associated with low birthweight and that is a reliable predictor that someone will experience a range of health and developmental problems later in life. Frequent house moves in childhood and other adverse housing experiences are associated with low educational and cognitive attainment. People who build up a cognitive reserve early in life can carry it with them, making them better able to cope with conditions like dementia.

One reason these long-term impacts matter is that it is difficult to reverse the effects of housing distress experienced in childhood. The human and financial costs of bad housing endure.

The cost to the NHS

People who have faced housing problems are likely to have worse health than those who have not. As a result, health services bear additional costs because of homelessness, overcrowding, poor housing and affordability problems. While there is no clear estimate of the size of those costs some of the impacts of housing on the health service can be quantified.

Table 2 shows that homeless people use hospitals' services much more than the rest of the population. Compared with people living in the most deprived parts of the country, where health is worse than the average, homeless people are five times as likely to be admitted to hospital for a mental health condition and twice as likely to be admitted to an accident and emergency department. The contrast with Scotland's least deprived places is starker.

Not only are homeless people more likely to use hospitals' services the average cost of treating a homeless person is estimated to be 1.5 times the cost of treating someone who has a home.

Table 2 How many times more likely is it that a homeless person used hospital services in 2001–16…

Service	… than someone living in Scotland's **most** deprived areas	… than someone living in Scotland's **least** deprive areas
A&E attendance	1.9	3.5
Acute hospital admissions	1.7	3.1
Outpatient appointments	1.6	2.3
Dispensed prescriptions	2.5	8.2
Mental health admissions	4.9	20.9

Source: Scottish Government, Health and Homelessness in Scotland

Conventional economic impacts

Housing-related health problems can affect the volume of 'human capital inputs' in an economy and their quality and productivity.

In general, "poor health increases the risk of exit from paid employment," and housing loss leads to a substantial increase in the probability of job loss. Homelessness can be a long-term barrier to employment.

Health-related housing problems also affect how productive people are. Work skills, like other skills, develop from a very early age. The experiences people have while very young matter greatly to their future productivity. Factors such as birthweight are strong predictors of how well people develop various skills. This section has shown that children who face housing distress are more likely than those who do not to develop mental and physical illnesses and to have delays in their development. Through this channel, housing problems constrain people's productive potential later in life and, thus, average incomes are lower than they otherwise would be.

Thus, investing in social housing would have the direct effect of reducing the number of people who become ill because of their accommodation, or the lack of it. It would also mean savings to the NHS. There would be an economic boost as more people would be able to gain and sustain employment and others would be able better to develop work and life skills that would make them more productive.

SECTION 5

THE ECONOMIC IMPACT OF INVESTING IN SOCIAL HOUSING

Assessments of the economic impact of housing investment typically focus on the benefits that flow from the construction phase. In contrast, appraisals of other types of infrastructure consider wider effects and HM Treasury's Green Book, which provides guidance on appraisal explicitly allows for them. The preceding sections have shown that the benefits of investing in social housing go beyond the immediate impact of building homes, with effects on education, health and, hence, labour supply and productivity. This section sets out estimates of three sets of impacts that will flow from investing in social housing. The results have been produced by Fraser of Allander Institute and are set out in full in a separate report and in summary in Annex 2. The estimated costs of the programme are set out in Annex 1.

Construction, management and maintenance

The programme generates £6.4 billion of GDP, equivalent to more than 3% of Scotland's annual GDP. During the construction phase, employment falls. That is because day-to-day public spending is reduced to meet the cost of grants. Beyond 2026, when the houses have been built, employment increases by an average of 2,800 full-time equivalent (FTE) jobs per year.

Boosting the supply of labour

Section 2 showed that the employment rate among homeless people is less than half that among the general population and that when people move into decent housing they are more likely to find work and stay in a job. As an illustration of the effect this would have on the economy, Fraser of Allander Institute estimated the impact that providing 35,000 social houses would have if it led to a halving of the difference in employment rates between people who are homeless and become housed, and the general population. That would mean increasing the supply of labour by 6,700 people.

In this way, the programme generates £4.0 billion of GDP, equivalent to more than 2% of Scotland's annual GDP. Employment increases by an average of 4,000 FTE jobs per year.

Enhancing productivity

Sections 3 showed that decent housing leads directly to people doing better in education while section 4 showed that decent housing leads to better health which, in turn, leads to better educational outcomes. Both factors cause people to be more productive later in life. Fraser of Allander Institute estimated the impact that providing social homes would have if 6,900 children who are currently homeless were able to attain in adulthood to the productivity level of the rest of the population.

This increase in productivity generates £1.5 billion of GDP, equivalent to just under 1% of Scotland's GDP. Employment increases by 200 FTE jobs per year.

Benefits compared with costs

Table 3 summarises the effects on income and employment of building the homes. The present value of the three impacts is equivalent to £12 billion of additional income and, in the long-run, an additional 7,000 FTE jobs. These benefits compare with the present value of the public sector cost, through grant payments, of £2.2 billion.

Table 3 Benefits and costs of investing to build 35,000 costal houses between 2021 and 2026

	Change in GDP, £bn[1]	Change in employment, FTE[2]
Construction, management and maintenance	6.4	(3,000), construction – five years 2,800, management and maintenance – 40 years
Boosting the supply of labour	4.0	4,000
Enhancing productivity	1.6	200

1 This figure represents the 'present value' of the extra GDP that will be created by building and maintaining the houses. A present value calculation adds together the future streams of GDP gains but places less value on future years than on today, recognising that £1 is worth more at present than is the prospect of £1 in the future. The discount rate used in 3.5%, reflecting HM Treasury guidance. That means £1 received ten years from now is 'worth' £0.71 today.

2 This figure is the average number of full-time equivalent jobs per year.

These are not all of the benefits that arise from investing in housing. Evidence set out in this report shows that other benefits would include:

- the productivity gains that will arise by housing more people in urban areas and closer to jobs;
- savings to the health service;
- savings to the education system;
- savings from reductions in crime.

In addition, there are some benefits that it is very difficult, perhaps impossible, to measure such as the effects on community cohesion and neighbourhood strength, the importance of which the National Performance recognises.

SECTION 6

GOOD HOUSING HELPS TO STRENGTHEN COMMUNITIES

Scotland wants to be a country in which, "we live in communities that are inclusive, empowered, resilient and safe." This section presents evidence that shows how social housing helps to build and maintain communities like this.

Neighbourhood satisfaction

The National Performance Framework measures the proportion of adults who rate their neighbourhood as 'a good place to live' People who are satisfied with their housing are more likely to be satisfied with their neighbourhoods. A Glasgow study found that those in new builds were substantially more likely to rate quality of their dwelling positively. They were also around twice as likely to say that they enjoyed living in the neighbourhood, and that the neighbourhood was attractive.

Neighbourhood connections

When people have stable housing arrangements it helps them to develop the bonds that build community cohesion. Social housing provides that kind of stability: on average, people in social rented housing have lived in their current home for 11.4 years. People who live in their homes longer are more likely to get to know and to trust their neighbours, and to participate in community groups. Social connectedness takes time to develop, and it cannot be transferred: it is a result of the time spent in the neighbourhood. In contrast, frequent and, especially, forced house moves undermine residents' sense of belonging and attachment.

Social housing and social landlords help to improve these connections. Rental arrangements that give tenants a sense of control over their circumstances increase the chance of developing attachments to a neighbourhood. Involving tenants in housing management services generates feelings of control and ownership. Residents of social and cooperative housing have some of the highest levels of community involvement. In contrast, private renters cite lack of security as an impediment to putting down roots and feeling settled in a community.

Crime

Housing doesn't cause criminal behaviour. But it can prevent it.

Having a good quality, stable home reduces the likelihood of repeat offending:

79% of offenders who are homeless upon entering prison go on to reoffend within one year of release, compared with 47% of those who have accommodation.

Higher rates of offending on bail have been found among those of no fixed abode, and 60% of prisoners believed that having a place to live was important in stopping them reoffending. The cost of reoffending in Scotland is estimated to be around £3 billion.

In communities with stable populations, community mobilisation - including providing tenants with decision making opportunities, initiating a resident-based security system, and providing more communal facilities for young people - can produce sharp reductions in crime rates. In a Glasgow study of people living in new build homes, the new build residents had stronger community ties and were more likely than those in improved dwellings to think that their neighbours would help to stop a disturbance.

Investment in housing and communities can also reduce criminal activity. Housing construction and development in New York resulted in the poorest neighbourhoods experiencing substantial crime reduction.

Choice and control

Housing choice has a positive effect on neighbourhood satisfaction. People who can choose what house and neighbourhood they want to live in are more likely to be satisfied with the dwelling and attributes of the neighbourhood, which has a positive impact on neighbourhood satisfaction. This is not limited to households with financial resources: giving homeless households a shared role in identifying the attributes and location of their future home through social housing increases the sustainability of tenancies.

Income and wealth inequality

Participation in community activities is significantly lower in places that are more unequal. Reducing disparities in wealth and income can promote social cohesion. As housing is an essential and significant cost, affordable housing is crucial to reducing inequalities. The lower cost of housing in the social rented sector in Scotland is a cause of lower poverty compared with the rest of the UK, but that poverty rate is rising.

Facilities

Community facilities and services influence social cohesion. Disadvantaged neighbourhoods often lack facilities that can consolidate social cohesion. A Glasgow study found strong links between neighbourhood satisfaction and positive reviews of community and social venues.

Investment in neighbourhood renewal, of which social housing can be an integral part alongside improved services and facilities, can strengthen social cohesion and reduce inequalities between places.

Conclusions

The role that social housing plays in strengthening communities points to a different set of impacts to those considered earlier in this report. They are not easily expressed in terms of incomes or jobs. They are nevertheless important and have the same weight in the National Performance Framework as conventional measures of economic benefits.

SECTION 7

SOCIAL HOUSING HELPS TO ALLEVIATE POVERTY

Scotland is committed to, "eradicating poverty," by, "sharing opportunities wealth and power more equally." The National Performance Framework recognises that, "Scotland is a wealthy country and we have the resources, ability and commitment to provide a decent life for all our people." It envisions a Scotland where, "[w]e are all able to enjoy financial security, have a decent job, home and a good life."

The cost of housing is a major outlay for most people. As such, it is a major factor in creating and preventing poverty: affordable housing can increase a household's disposable income, while high housing costs can leave people without sufficient income, plunging them into poverty. This section presents evidence that shows how social housing can alleviate poverty.

How housing costs contribute to poverty

102,000

In Scotland, 102,000 people are in poverty as a result of their housing costs.

Poverty statistics measure how much income a household has both before and after paying for housing. People are considered to be in relative poverty if their incomes are below 60% of median income. Income is usually measured in two ways: before housing and after housing costs. The proportion of Scots living in relative poverty is higher after accounting for housing costs (19%) than before them (17%). The difference between the two figures represents the number of people whose housing costs push them into poverty. That means 2% of Scots suffer housing costs-induced poverty. Those who pay high housing costs and have low incomes are therefore at greatest risk of poverty.

How social housing can prevent poverty

Affordable social housing can prevent poverty. While rates of poverty before housing costs are similar in Scotland and the rest of the UK (rUK), Scotland has much lower levels of poverty after housing costs. This is because costs in Scotland are lower than in rUK, particularly among social renters. Furthermore, the social rented sector is larger in Scotland than rUK, amplifying this effect. For this reason, social housing and the associated low rents are the most redistributive aspect of the welfare system.

Housing conditions and poverty

Joseph Rowntree Foundation research on the experiences of over 5,000 people over 18 years found strong links between housing deprivation and poverty. Around 90% of people who experienced housing deprivation also experienced some form of poverty and more than six out of ten experienced chronic poverty. However, the link is not equally strong in the other direction.

The Marmot Review Team has gone further, concluding that poor-quality or insecure housing may create the risk of poverty or exacerbate the effects of poverty on living standards and life chances.

SECTION 8

HOW TO MAKE INVESTMENT IN SOCIAL HOUSING SERVE CLIMATE OBJECTIVES

Scotland is committed to eliminating its net emissions of greenhouse gases by 2045. In 2017, houses accounted for 15% of emissions. According to the UK Committee on Climate Change (CCC), "We will not meet our [UK] targets for emissions reduction without near complete decarbonisation of the housing stock." Yet two-thirds of UK homes do not meet energy efficiency targets.

Roughly eight out of every 10 houses in Scotland today will still be in use in 30 years time. That means the biggest contribution that the housing sector will make to meeting the 2045 target will be through improvements to the existing stock that make it more energy efficient. The Scottish Government has introduced measures designed to reduce the contribution to emissions that houses make and to ensure that the existing stock is able to protect people from the effects of climate change. Those include specific actions that social landlords must take.

This report makes the case for building 35,000 new social houses between 2021 and 2025. It recognises that building houses has an inevitable carbon cost and that there could be an additional financial cost to constructing homes to high energy and emissions standards. Yet, as the CCC has made clear, housing has no alternative but to contribute to achieving emissions reductions. This is precisely the type of circumstance that the Just Transition approach to meeting environmental commitments addresses. The Scottish Government's Just Transition Commission is charged with understanding and mitigating risks that could arise as emissions are eliminated, with inequalities and fuel poverty specifically identified as areas of focus. In its Interim Report, the Just Transition Commission recognised the need to tackle both climate change and housing inequalities.

The challenge, therefore, is to deliver the additional homes in ways that most effectively contribute to the legally-mandated objective of eliminating net emissions by 2045. That will involve building new homes to high standards, using materials that are less carbon-intensive. It will also mean recognising that the alternative of undertaking improvement works at a later date, or retrofitting in the jargon, will have higher financial and environmental costs. Acting now is better than acting later. It may also mean building on 'greenbelt' land where that minimises total emissions by allowing more journeys to be made using public transport.

Houses that are built to current standards require more than twice the energy to heat them as an average zero-carbon home: that means more emissions and higher bills. According to the CCC, building homes to ultra-high energy standards, along with air source heat pumps would result in additional construction costs of £1,300 for a flat to £6,900 for a detached house. Most social houses will be closer in size and other features to a flat than to a detached house. An extra £1,300 of build costs would, on average, add less than 1% to the total cost of a new social home. In a separate exercise, the Energy and Climate Intelligence Unit estimated that building a zero carbon house would add 1% to 2% to the project's capital cost.

Incurring that additional, up-front cost makes financial sense as compared with the alternative of building to a lower standard and upgrading at a later date.

Making new homes suitable for low-carbon heating can save **£1,500** to **£5,000** per home as compared with retrofitting.

Building a home with an air source heat pump and ultra-high levels of fabric efficiency costs **£4,800** in a new build and **£26,300** if retrofitted.

A package of passive cooling measures costs **£2,300** in a new build and **£9,200** if retrofitted.

Ensuring that houses are actually built to a high standard, not just that the standards exist, would save **£70** to **£260** year on bills.

Higher energy standards also contribute to reducing fuel bills, and hence fuel poverty.

Ultra-high levels of fabric efficiency combined with air-source heat pumps could save an average of **£85** per year.

The Welsh Government's Innovative Housing Programme is examining projects that have the potential to reduce annual fuel bills to less than **£100.**

The Health section of this report details the effects on physical and mental health of poor quality housing. Building to high standards would reduce the probability of people contracting diseases associated with cold and damp. It would, thereby, result in savings to the Health Service.

There are also carbon costs associated with waiting to retrofit rather than building new to higher standards. Currie & Brown, a consulting firm, has calculated that cost for a typical semi-detached house. They compared two houses built in 2020. One has gas heating which is replaced by an air-source heat pump in 2030. The other is built with the heat pump. The former can be expected to emit three times more carbon over 60 years than the latter, some 9-10 tonnes of carbon . Building 35,000 homes in ways that save 10 tonnes of carbon per house would be equivalent to almost 6% of total residential emissions in Scotland in 2017.

Although an emergency has been declared, the precise nature of the best responses to it are not always clear. There will be a need for innovation and experimentation in a range of areas to identify those best responses. That applies to the design, construction and use of houses. Already, the Scottish Government has invested in projects that will investigate how new and existing houses can be designed and adapted to help meet climate targets. A programme of 35,000 new houses built across Scotland affords a potentially valuable opportunity to test alternative approaches – designs, use of materials, building techniques – to meeting obligations to the environment and to people who need homes.

An unintended consequence of investing in low energy and low emission social homes might be economic opportunities for Scotland. Many other countries have committed to the Paris Agreement aim of limiting the increase in temperature in this century to 1.5 degrees Celsius. For them, too, houses are major users of energy and sources of emissions. They are also in the market for solutions. Both the Scottish Government and the CCC have emphasised the central role of innovation in meeting climate challenges. Successful innovation in the proposed social housing investment programme could give Scottish firms export opportunities, both overseas and in other parts of the UK.

ANNEX 1

COSTS OF BUILDING AND MAINTAINING 35,000 SOCIAL HOMES

The proposed programme consists of building 35,000 social homes from 2021 to 2026 at a rate of 7,000 per year.

It is assumed that 32% of the houses will be built by local authorities and 68% by other social landlords, in line with the division between the two in recent years.

The average cost of a house is assumed to be £150,000 in 2018-19 prices based on Affordable Housing Supply Programme Out-turn Report 2018-19, Table 9.

Thus, the total value of the programme is £5.25 billion, £1.05 billion per year.

The cost of grants associated with the programme is £2.5 billion, £500 million per year. The present value of grant payments is £2.2 billion. It is assumed that the grant level for local authorities will be £59,000 per house. For other social landlords the assumed grant rate is as set out in the column headed 'RSL Social Rent – Greener Benchmark' in Table 7.3 of Affordable Housing Need.

Management and maintenance costs are estimated at £2,080 per house in 2018-19 prices, based on Housing Revenue Account (HRA) statistics: Scottish local authority housing income and expenditure 2018-2019 (actuals) and 2019-2020 (estimates).

ANNEX 2

ESTIMATING THE ECONOMIC IMPACTS OF BUILDING AND MAINTAINING 35,000 SOCIAL HOUSES

Background

With the support of the Scottish Policy Foundation, the Fraser of Allander Institute has estimated the impacts on income and employment of building and maintaining 35,000 houses. The report by the Fraser of Allander Institute describing how the estimates were made is available here.

Investing in social housing gives rise to three sets of impacts that are considered in the report.

- The process of constructing, managing and maintaining the houses represents a 'demand shock'. That is, expenditure on building and maintaining the houses gives rise to demand for goods and services, and demand for labour.
- Providing houses for people increases the supply of labour and results in higher levels of employment and output. This is a 'supply shock'.
- Children who live in unsatisfactory housing or who are homeless suffer poorer health and fare worse in education than those in decent housing. Providing the houses means children will be healthier and do better in education. As a result, they will be more productive as adults. This productivity effect is another 'supply shock'.

Demand shock

The size of the impact on income and employment of building and then maintaining the houses depends, in particular, on assumptions about how much spare capacity there is in the economy, how wages respond to an increase in labour demand and whether the cost of grants is met from reductions in other elements of Scottish Government spending or by an increase in the block grant paid by Westminster to Holyrood.

If an economy is operating with little or no spare capacity – for example, no one is unemployed and factories, offices, shops and warehouses are fully occupied – an increase in demand from investing in social housing would push up prices and wages. Among the effects of higher prices and wages can be a reduction in domestic consumption, exports becoming less competitive and employment falling. It is very difficult to know how much spare capacity there is in an economy – this is a problem with which central banks often wrestle in setting interest rates – as it cannot be observed directly. However, there are decent proxy indicators such as the unemployment rate, information from business surveys and levels of price and wage inflation.

Similar points apply to the relationship between labour demand and wage inflation. It was long the case that high and rising rates of employment were associated with higher wage inflation. In that environment, adding to labour demand by building houses would push up wages as employers had to pay more to encourage already-employed people to leave their jobs.

Table A2.1 summarises the income and employment impacts for six separate cases. These reflect three assumptions about the degree of spare capacity and how wages respond to an increase in labour demand for each of the two funding cases: one in which grants are paid for by an offsetting reduction in Scottish Government spending on day-to-day services and a second in which the cost is met from an increase in the block grant. Different models of the economy have been used to estimate the impacts of there being spare capacity – Scenario 1 – and there being different types of constraints – Scenarios 2 and 3.

The range of estimates is large, reflecting the sensitivity of the results to the assumptions made. That means a choice has to be made about which scenario to choose as the central case. This report adopts as its central case the scenario in which there is spare capacity and grants are funded by the Scottish Government reducing day-to-day spending. These assumptions yield an estimated increase in the present value of GDP of £6.4 billion and an increase in employment of 800 full-time equivalent jobs per year associated with the construction phase and 2,800 per year associated with the long-term maintenance and management.

The decision to assume that there is spare capacity has been made for the following reasons. The programme of housebuilding would take place between 2021 and 2026. At the time of writing, it appears likely that the economy will be emerging from or still in the COVID-19-induced recession. Recessions result in a build up of spare capacity, both unemployed people and un-utilised physical capital. The judgment reached in this report is that such spare capacity will exist and that as a result the construction programme will not result in wage and price rises that would were they present would reduce the impact of the construction of the houses. In its report, Fraser of Allander Institute comments on this matter, writing:

> **"If the expenditures were to occur in a coronavirus-hit economy, the entirely passive supply side [i.e. the assumption that there is spare capacity] might seem a reasonable starting assumption since there is considerable excess capacity and unemployment. However, we would expect that as the economy gradually recovers, capacity and labour market constraints may become more important. Determining the "appropriate" assumptions about the supply side in present circumstances is clearly a matter of judgement."**

Table A2.1: Estimates of the impact of building and maintaining the houses

	Grants funded from an increase in the block grant		Grants funded by reducing Scottish Government day-to-day spending	
Scenarios	Change in GDP, £bn[1]	Change in employment, FTE[2], [3]	Change in GDP, £bn	Change in employment, FTE
1. There is spare capacity	12.3	30,600, construction 2,800, management & maintenance	6.4	(3,000)[4], construction 2,800, management & maintenance
2. There are capital constraints but no labour constraints	4.2	19,500, construction 1,100, management & maintenance	3.1	3,200, construction 1,100 management & maintenance
3. There are capital and labour constraints	1.7	6,300, construction 400, management & maintenance	1.6	1,500, construction 400, management & maintenance

1 This figure represents the 'present value' of the extra GDP that will be created by building and maintaining the houses. A present value calculation adds together the future streams of GDP gains but places less value on future years than on today, recognising that £1 is worth more at present than is the prospect of £1 in the future. The discount rate used is 3.5%, reflecting HM Treasury guidance. That means £1 received ten years from now is 'worth' £0.71 today. At the time of writing, in early June 2020, market interest rates were much lower than those consistent with a discount rate of 3.5%. If market rates were applied, the present value of the extra GDP would be greater than reported above.

2 This figure is the average number of full-time equivalent jobs per year.

3 The construction phase lasts for five years and construction employment is the average number of FTE jobs in each of the five years. The buildings are assumed to have lives if 40 years and management and maintenance employment is the average number of jobs in each of the 40 years.

4 Employment during the construction phase is negative in this scenario. The multiplier effect of current government spending is greater than the effect of construction spending. As a result, reducing current government spending to pay for grants more than offsets the rise in employment resulting from the construction of the houses.

For a very long time in the past there was a clear relationship between unemployment and wage inflation. In short, the lower was the level of unemployment and the closer it moved towards 'full employment' the faster wages would rise. That relationship appears to have broken down in the last decade or so, suggesting the bargaining power of labour has declined. This report assumes that the rise in unemployment associated with the COVID-19-induced recession at the least will mean that there is no strengthening in the bargaining power of labour and that as a result the link between labour demand and wage inflation will be akin to that observed during the last decade. In its report, Fraser of Allander Institute comments on this matter, writing:

> **"It may well be the case that the assumptions about wage responses could vary through time with excess capacity in the initial years, which gradually diminishes with a return to a situation in which supply constraints begin to bite. However, such a process would be difficult to capture within the CGE (at least for transitory expenditure changes), and so the outcomes would likely reflect some weighted average of the cases explored above. The very uncertainty surrounding the appropriate treatment of labour availability and existing capacity motivates the adoption of a range of possibilities here. However, prevailing circumstances provide a more compelling motivation for favouring results towards the IO/SAM end of the spectrum [i.e. the results that assume there is spare capacity]."**

This assumption means that if there were believed to be capital constraints the impacts would be as set out in Scenario 2.

The decision to assume that grants are funded from reductions in day-to-day spending reflects the view that building the houses will have an opportunity cost. That is, other activities could be funded or taxes reduced if investment in social housing did not take place.

Supply shock – increasing the supply of labour

The body of this report describes evidence showing that the employment rate among people who were homeless was around 30% in 2019 while among the general population it was around 75% and that securing a house means it is more likely that people will find and retain work. What is not known is the size of the effect on the employment rate of previously homeless people of becoming housed. Thus, this part of the Fraser of Allander Institute's report sets out an estimate of the impact on income and employment if it is assumed that housing people raises the employment rate of people who were previously homeless to 53%, half way between 30% and 75%. The assumption that the employment rate for people who are housed would move to halfway between its current level and the rate among the general population is made for illustrative purposes as it is not possible to know in advance precisely how the employment rate will adjust.

It has been assumed that housing is not the only barrier to employment faced by people who are homeless and that their employment rate would not, therefore, adjust fully and quickly to that of the the general population. This assumption yields an estimated increase in the present value of GDP of £4.0 billion and an increase in employment of 4,000 full-time equivalent jobs per year.

Supply shock – increasing productivity

The report also describes evidence that shows how housing circumstances affect people's performance in education both directly and as a result of the effects of housing on health, and hence on educational attainment. A separate literature evidences the effects of education on future productivity and labour market performance, including wages.

The Fraser of Allander Institute uses data from two sources as the basis for estimating the impact on income and employment of the higher productivity that results from children being housed. The first is Education outcomes for looked after children, 2017-18. It sets out the educational attainments of looked after school leavers and all school leavers. Second, Human capital estimates: supplementary tables details the average value of a person's human capital of people depending on their qualifications. Combining these, and assuming that the educational attainments of people who were looked after children is a reasonable proxy for those of homeless children, it is possible to quantify the change in the value of Scotland's human capital if the attainments of previously homeless children became the same as the general population.

The productivity effect yields an estimated increase in the present value of GDP of £1.6 billion and an increase in employment of 200 full-time equivalent jobs per year.

Impacts not measured in this report

The evidence set out in the body of this report makes clear that there are impacts on income and employment that would likely arise from investing in social housing and which, intentionally, have not been considered in the report by the Fraser of Allander Institute. They include:

- the benefits that will arise by housing more people in urban areas and closer to jobs;
- savings to the health service;
- savings to the education system;
- savings from reductions in crime.

BIBLIOGRAPHY

Alesina, A. and E. La Ferrara (2000). "Participation in Heterogeneous Communities." The Quarterly Journal of Economics, Volume 115, Issue 3, August 2000, Pages 847–904.

All Party Parliamentary Group for Healthy Homes and Buildings (2018). "Building our Future: Laying the Foundations for Healthy Homes and Buildings, White Paper,"

Allen, J. and S. Daly (2016). "Older people and the social determinants of health." British Medical Association.

Arthurson, K, A. Ziersch and V. Long (2006). "Community Housing: Can It Help Tenants to Develop Labour Market Skills?". Just Policy, No. 39, March 2006.

Australian Institute of Health and Welfare (2017). "National Social Housing Survey: detailed results 2016."

Barnard, H. (2017). "Poverty in Scotland." Joseph Rowntree Foundation.

Barnes, M., C. Cullinane, S. Scott and H. Silvester (2013). "People living in bad housing – numbers and health impacts." NatCen Social Research.

Bradshaw, I (2016). "A basic need, Housing policy and mental health." Centre for Mental Health.

Bramley, G., S. Fitzpatrick, J. Wood, F. Sosenko, J. Blenkinsopp, M. Littlewood, C. Frew, T. Bashar, J. McIntyre, S. Johnsen (2019). "Hard Edges Scotland."

Brennan, M. (2007). "The Positive Impacts of Affordable Housing on Education: A Research Summary." Center for Housing Research Policy.

Brennan, M. (2011). "The Impacts of Affordable Housing on Education: A Research Summary." Center for Housing Policy.

Brennan, M., P. Reed, and L. A. Sturtevant (2014). "The Impacts of Affordable Housing on Education: A Research Summary." Center for Housing Policy.

Breysse, P., N. Farr, W. Galke, B. Lanphear, R. Morley, and L. Bergofsky (2004). "The Relationship between Housing and Health: Children at Risk." Environmental Health Perspectives, Volume 112, Number 15, November 2004

Bridge, C., P. Flatau, S. Whelan, G. Wood and J. Yates (2003). "Housing assistance and non-shelter outcomes." Australian Housing and Urban Research Institute, Final Report No. 40.

Brumley, B., J. Fantuzzo, S. Perlman and M. L. Zager (2015). "The Unique Relations between Early Homelessness and Educational Well-Being: An Empirical Test of the Continuum of Risk Hypothesis." Children and Youth Services Review, 2015 January 1; 48: 31–37.

Buck, D. and S. Gregory (2013). "Improving the public's health, A resource for local authorities." The King's Fund.

Buck, D. and S. Gregory (2018). "Housing and health: Opportunities for sustainability and transformation partnerships." The King's Fund.

Chartered Institute of Housing. (2017). "Rethinking Social Housing: Final Report."

Chen, J. (2013). "Housing tenure, residential mobility and adolescents' education achievement: evidence from Sweden." Annals of Regional Science (2013) 50:275–294.

Clair, A. (2018). "Housing: an Under-Explored Influence on Children's Well-Being and Becoming." Child Indicators Research, 12, pages 609–626.

Clapham, D. (2010). "Happiness, well-being and housing policy." Policy & Politics, Volume 38, Number 2, 253-67.

CMS Cameron McKenna Nabarro Olswang LLP (2019). "Urban Being: The Future of City Living and the European 'Beds Sector'."

Cobb-Clark, D. A. and A. Zhu (2015). "Childhood Homelessness and Adult Employment: The Role of Education, Incarceration, and Welfare Receipt." IZA Discussion Papers, No. 9250.

Cobb-Clark, D. A. and A. Zhu (2015). "Childhood Homelessness and Adult Employment: The Role of Education, Incarceration, and Welfare Receipt." IZA Discussion Papers, No. 9250.
Committee on Climate Change (2018). "Net Zero: The UK's contribution to stopping global warming."
Committee on Climate Change (2019). "UK housing: Fit for the future?"
Committee on Climate Change (2019). "UK housing: Fit for the future?"
Congreve, E. (2019). "Poverty in Scotland." Joseph Rowntree Foundation.
Cunningham, M and G. MacDonald (2012). "Housing as a Platform for Improving Education Outcomes among Low-Income Children." Urban Institute.
Currie & Brown (2018). "A report for the Committee on Climate Change: The costs and benefits of tighter standards for new buildings."
Currie & Brown (2018). "Cost of Carbon Reduction in New Buildings."
Currie, J., (2007). "Healthy, Wealthy, and Wise: Is there a Causal Relationship Between Child Health and Human Capital Development?"
Department for Communities and Local Government (2012). "Evidence review of the costs of homelessness."
Desmond, M. and C. Gershenson (2016). "Housing and Employment Insecurity among the Working Poor." Social Problems, 2016, 63, 46-67.
Diggle, J., Butler, H., Musgrove, M. and Ward, R. (2017). "Brick by brick: A review of mental health and housing."
DiPasquale, D. and E. Glaeser (1998). "Incentives and Social Capital: Are Homeowners Better Citizens?" NBER Working Paper 6363.
Dockery, A. M., S. Feeny, K. Hulse, R. Ong, L. Saugeres, H. Spong, S. Whelan and G. Wood (2008). "Housing assistance and economic participation." Australian Housing and Urban Research Institute.
Dunham, T., J. Dodson and J. Lawson (2019). "The business case for social housing as infrastructure." Australian Housing and Urban Research Institute.
eaga Charitable Trust (2007). "Health, mental health and housing conditions in England: survey findings."
Energy & Climate Intelligence Unit (2019). "Zero Carbon Homes: How owners of new homes are paying over the odds for energy."
European Foundation for the Improvement of Living and Working Conditions (2016). "Inadequate housing in Europe: Costs and consequences."
Evans, G. W., H. Saltzman and J. L. Cooperman (2001). "Housing Quality and Children's Socioemotional Health." Environment and Behaviour, Volume 33 Number 3, May 2001 389-399.
Evans, G. W., N. M. Wells, H-Y. E. Chan and H. Saltzman (2000). "Housing Quality and Mental Health." Journal of Consulting and Clinical Psychology, 2000, Volume 68, Number 3, 526-530.
Fatal, J. and G. Davis (2007). "The Political Economy of the Crime Decline in New York City. Presented at the Annual Meeting of the American Society for the Advancement of Science.
Feeny, S., R. Ong, H. Spong, G. Wood (2011). "The Impact of Housing Assistance on the Employment Outcomes of Labour Market Programme Participants." Urban Studies, 49(4), pp. 821–844.
Fletcher, D. R., T. Gore, K. Reeve and D. Robinson (2008). "Social housing and worklessness: Key policy messages." Department for Work and Pensions, Research Report No 482.
Forrest, R. and A. Kearns (2001). "Social Cohesion, Social Capital and the Neighbourhood." Urban Studies, 38(12).
Friedman, D. (2010). "Social impact of poor housing." ECOTEC.
Fujiwara, D. and J. Vine (2015). "The Wellbeing Value of Tackling Homelessness: Identifying the impact on life satisfaction using the Journeys Home dataset." HACT.
Galvez, M. and J. Luna (2014). "Homelessness and Housing Instability: The Impact on Education Outcomes." Urban Institute.

Garcia, J. L., and J. J. Heckman (2020). "Early Childhood Education and Life-cycle Health." Working Paper 2020-011, HCEO Working Paper Series, University of Chicago.
Gibson, M., M. Petticrew, C. Bambra, A. J. Sowden, K. E. Wright and M. Whitehead (2011). "Housing and health inequalities: A synthesis of systematic reviews of interventions aimed at different pathways linking housing and health." Health & Place, Volume 17, Issue 1, January 2011, Pages 175-184.
Glaeser, E. and J. Gyourko (2018). "The Economic Implications of Housing Supply." Journal of Economic Perspectives—Volume 32, Number 1—Winter 2018—Pages 3–30.
Glaeser, E. L., J. Gyourko and R. E. Saks (2005). "Urban Growth and Housing Supply." NBER Working Paper 11097.
GoWell (2017). "The benefits of new build housing provided through regeneration in Glasgow." Briefing Paper 29.
Ha, S-K. (2010). "Housing, social capital and community development in Seoul." Cities, Volume 27, Supplement 1.
Halpern, D. (2013). "Mental Health and the Built Environment, More than Bricks and Mortar?" Routledge.
Happiness Research Institute (2019). "The GoodHome Report 2019: What makes a happy home?"
Hetherington, K. and N. Hamlet (2015). "Restoring the Public Health response to Homelessness in Scotland." Scottish Public Health Network.
Hilber, C. (2007). "New Housing Supply and the Dilution of Social Capital."
HM Government (2017). "Industrial Strategy: Building a Britain fit for the future."
Homeless Link (2014). "The unhealthy state of homelessness, Health audit results 2014."
House of Commons Education Committee (2014). "Underachievement in Education by White Working Class Children."
House of Commons, Communities and Local Government Committee (2008). "Existing Housing and Climate Change."
Independent Advisor on Poverty and Inequality (2016). "Shifting the Curve, A Report to the First Minister."
Infrastructure Commission for Scotland (2019) "Inclusive Economic Growth: A Review."
Infrastructure Commission for Scotland (2020). "Phase 1: Key findings report: A blueprint for Scotland."
Killie, G. (2008). "Transforming the UK's Existing Housing Stock."
Kraatz, J. A. and G. Thomson (2016). "Valuing Social Housing: Progress Report 2." Sustainable Built Environment National Research Centre.
Kraatz, J. A., J. Mitchell, A. Matan, P. Newman (2015). "Rethinking Social Housing: Efficient, Effective & Equitable, Progress Report 1." Sustainable Built Environment National Research Centre.
Krieger, J., and D. L. Higgins (2002). "Housing and Health: Time Again for Public Health Action." American Journal of Public Health, May 2002, Vol 92, No. 5.
Lang, R. and D. Mullins (2015). "Bringing real localism into practice through co-operative housing governance: The prospects for community-led housing in England."
Leckie, G., (2009). "The complexity of school and neighbourhood effects and movements of pupils on school differences in models of educational achievement."
Leviten-Reid, C. and R. A. Matthew (2017). "Housing Tenure and Neighbourhood Social Capital." Housing, Theory and Society, 35:3, 300-328.
Liddell, C and C. Morris (2010). "Fuel poverty and human health: A review of recent evidence." Energy Policy 38 (2010) 2987–2997.
Local Government Association (2014). "The Impact of Homelessness on Health, A Guide for Local Authorities."
Lu, M. (1999). "Determinants of Residential Satisfaction: Ordered Logit vs. Regression Models." Growth and Change, Volume 30, Issue 2, Pages: 161-312, Spring 1999.
Lubell, J. and M. Brennan (2007). "Framing the Issues— the Positive Impacts of Affordable Housing on Education."

Lubell, J., R. Crain, and R. Cohen (2007). "Framing the Issues— the Positive Impacts of Affordable Housing on Health." Center for Housing Policy.
Lupton, R., R. Tunstall, W. Sigle-Rushton, P. Obolenskaya, R. Sabates, E. Meschi, D. Kneale and E. Salter (2009). "Growing up in social housing in Britain: A profile of four generations, 1946 to the present day."
Maclennan, D., R. Ong and G Wood (2015). "Making connections: housing, productivity and economic development." Australian Housing and Urban Research Institute.
Maclennan, D., R. Ong and G Wood (2016). "Housing, productivity and economic development." AHURI Research & Policy Bulletin, Issue 212 August 2016.
Maclennan, D. (2008). "Housing and the Toronto Economy." Cities Centre, University of Toronto, Research Paper 212.
Maclennan, D., Bill R., L. Crommelin, E. Witte, P. Klestov, B. Scealy and S. Brown (2019). "Strengthening Economic Cases for Housing Policies." City Futures Research Centre, UNSW Built Environment.
Maclennan, D., H. Pawson, K. Gibb, S. Chisholm and D. Hulchanski (2019). "Shaping Futures: Changing the Housing Story Final Report."
Maclennan, D., R. Ong and G. Wood (2015). "Making connections: housing, productivity and economic development." Australian Housing and Urban Research Institute, Research Report No. 251.
Marmot Review Team (2011). "The Health Impacts of Cold Homes and Fuel Poverty."
Mavromaras, K., D. King, K. Macaitis, S. Mallett and D. Batterham (2011)."Finding Work: Homelessness and Employment."
McKee, K. and A. M. Soaita (2018). "The 'frustrated' housing aspirations of generation rent." UK Collaborative Centre for Housing Evidence.
Mohan, J. and L. Twigg (2007). "Sense of Place, Quality of Life and Local Socioeconomic Context: Evidence from the Survey of English Housing, 2002/03." Urban Studies, 44(10), 2029–2045.
Mowat, J.G. (2018). "Closing the attainment gap – a realistic proposition or an elusive pipe-dream?" Journal of Education Policy, Volume 33, 2018, Issue 2.
Mueller, E. J. and J. R. Tighe (2007). "Making the case for Affordable Housing: Connecting Housing with Health and Education Outcomes." Journal of Planning Literature, vol 21, no.4: pp. 371-385.
Murphy, J. (2011) "Homeless Children and Youth at Risk: The Educational Impact of Displacement." Journal of Education for Students Placed at Risk.
Nasim, B. (2016). "The Causal Impact of Transfers of Social Housing Stock on Educational Attainment in England." University College London, Institute of Education, Department of Quantitative Social Science, Working Paper No. 16-09.
Nathaniel Lichfield & Partners (2015). "The Economic and Social Benefits of Home Building in Scotland." Homes for Scotland.
National Children's Bureau (2016). "Housing and the Health of Young Children: Policy and evidence briefing for the VCSE sector."
NHS Confederation (2011). "Housing and mental health." Briefing, Issue 223.
NHS Health Scotland (2016). "Housing and health inequalities."
Nicol, S., Mike R. and H. Garrett (2015). "The cost of poor housing to the NHS." BRE Trust.
Office of the Deputy Prime Minister (2004). "The Impact of Overcrowding on Health and Education: A Review of the Evidence."
Office of the Deputy Prime Minister (2004). "Mental Health and Social Exclusion."
Office of the Deputy Prime Minister (2004). "The Impact of Overcrowding on Health & Education:
Ong, R., G. Wood, S. Whelan, M. Cigdem, K. Atalay, J. Dodson (2017). "Inquiry into housing policies, labour force participation and economic growth." Australian Housing and Urban Research Institute.
Permentier, M., G. Bolt and M. van Ham (2010). "Determinants of Neighbourhood Satisfaction and Perception of Neighbourhood Reputation." Urban Studies, Volume: 48 issue: 5, page(s): 977-996.
Phibbs, P. and P. Young (2005). "The health, employment and education benefits of public housing." AHURI Research & Policy Bulletin, Issue 54, March 2005.

Phibbs, P. and P. Young (2005). “Housing assistance and non-shelter outcomes.” Australian Housing and Urban Research Institute, Final Report No. 74.
Public Health Wales (2019). “Making a Difference Housing and Health: A Case for Investment.”
Read, D. C. and A. Tsvetkova (2012). “Housing and Social Issues: A Cross-Disciplinary Review of the Existing Literature.” Journal of Real Estate Literature, 20(1), 3-35.
Rebecca T., M. Bevan, J. Bradshaw, K. Croucher, S. Duffy, C. Hunter, A. Jones, J. Rugg, A. Wallace and S. Wilcox (2013). “The links between housing and poverty: an evidence review.” Joseph Rowntree Foundation.
Rettie & Co (2019). “The Value of Residential Development.” Homes for Scotland.
Romer, P. M. (1989). “Human Capital and Growth: Theory and Evidence.” NBER Working Paper No. 3173.
Romer, P. M. (1990). “Capital, Labor, and Productivity.” Brookings Papers on Economic Activity.
Roys, M., S. Nicol, H. Garrett and S. Margoles (2016). “The full cost of poor housing.” BRE Trust.
Schwartz, A. E. and L. Stieffel (2014). “Linking Housing Policy and School Reform.” In Laureau, A. and Goyette, K. “Choosing Homes, Choosing Schools: Residential Segregation and the Search for a Good School.” Russell Sage Foundation.
Scottish Governemnt (2018). “National Performance Framework.”
Scottish Government (2010). “A Thematic Review of Literature on the Relationship Between Housing, Neighbourhoods and Schools.”
Scottish Government (2011). “Good Places Better Health for Scotland’s Children.”
Scottish Government (2015). “Scotland’s Economic Strategy.”
Scottish Government (2016). “Delivering Excellence and Equity in Scottish Education: A Delivery Plan for Scotland.”
Scottish Government (2018). “Climate Change Plan: The Third Report on Proposals and Policies 2018-2032.”
Scottish Government (2018). “Energy Efficient Scotland.”
Scottish Government (2018). “Health and Homelessness in Scotland.”
Scottish Government (2018). “No One Left Behind: Next steps for the Integration and Alignment of Employability Support in Scotland.”
Scottish Government (2018). “Scottish House Condition Survey: 2017 Key Findings.”
Scottish Government (2019). “Climate Change Plan: Monitoring Report.”
UK Green Building Council (2016). “Health and Wellbeing in Homes.”
United Nations (2006). “Guidelines on Social Housing: Principles and Examples.”
van Rijn, R. M., S. J. W. Robroek, S. Brouwer and A. Burdorf (2013). “Influence of poor health on exit from paid employment: a systematic review.” Occupational and Environmental Medicine, 2013.
What Works Centre for Wellbeing (2016). “Housing and wellbeing.”
Scottish Government (2019). “Climate Ready Scotland: Second Scottish Climate Change Adaptation Programme 2019-2024.”
Scottish Government (2019). “Local Housing Strategy: Guidance.”
Scottish Government (2019). “Scotland’s People Annual Report 2018.”
Scottish Government (2020). “Poverty and Inequality Statistics.”
Scottish Government (2109). “Scottish Greenhouse Gas Emissions 2017.”
Shelter (2004). “Living in limbo: Survey of homeless households living in temporary accommodation.”
Shelter (2005). “Full house?: How overcrowded housing affects families.”
Shelter (2006). “Chances of a lifetime: the impact of bad housing on children’s lives.”
Shelter (2017). “The impact of housing problems on mental health.”
Shelter Scotland (2018). “Topic briefing: Health and homelessness.”
Shelter Scotland (2019). “Developing personal housing planning.”
Shelter Scotland (2019). “Housing, choice and control: how poverty and housing interact.”
Shields, J. and R. Gunson (2017). “Autonomy in the Right Place: School Governance Reform on Scotland.” IPPR Scotland.

Smith, M., F. Albanese and J. Truder (2014). "Sustain: A longitudinal study of housing wellbeing in the private rented sector." A report for Shelter and Crisis.
Smith, P. J. (2009). "The Impact of Childhood Health on Adult Labor Market Outcomes." Review of Economic Statistics, 2009 September 1; 91(3): 478–489.
Stephens, M., C. Leishman, G. Bramley, E. Ferrari and A. Rae (2014). "What will the housing market look like in 2040?" Joseph Rowntree Foundation.
Stone, W. and K. Hulse (2017). "Housing and Social Cohesion: Do housing policies and housing assistance make a difference to Australian communities?" Australian Housing and Urban Research Institute.
Stone, W., Hulse, K. (2007) Housing and social cohesion: an empirical exploration, AHURI Final Report No. 100, Australian Housing and Urban Research Institute.
Suglia, S. F., C. S. Duarte, and M. T. Sandel (2011). "Housing Quality, Housing Instability, and Maternal Mental Health." Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 88, No. 6.
Sustainable Homes (2020). "Housing 2050: How UK social housing can meet the challenge of climate change."
Taylor, M. P., D. J. Pevalin and Jennifer T. (2006). "The Psychological Costs of Unsustainable Housing Commitments." ISER Working Paper, 2006-08.
The Academic – Practitioner Partnership (2016). "Good Housing, Better Health."
The Centre for Social Justice (2017). "Social Housing and Employment: Helping social housing be the springboard to a better life."
The Marmot Review (2010). "Fair Society, Healthy Lives."
Thomson, H., Mark P. and D. Morrison (2005). "Housing Improvement and Health Gain: A summary and systematic review." MRC Social & Public Health Sciences Unit Occasional Paper No 5.
Tunstall, R,. and N. Pleace (2018). "Social Housing: Evidence Review."
Tyler, P., C. Warnock and A. Provins with P. Wells, A. Brennan, I. Cole, J. Gilbertson, T. Gore, R.
Tyler, P., C. Warnock and A. Provins with P. Wells, A. Brennan, I. Cole, J. Gilbertson, T. Gore, R. Crisp, A. Green, M. May-Gillings and Z. Phang (2010). "Valuing the Benefits of Regeneration." Department of Communities and Local Government.
UK Green Building Council (2016). "Health and Wellbeing in Homes."
United Nations (2006). "Guidelines on Social Housing: Principles and Examples."
van Rijn, R. M., S. J. W. Robroek, S. Brouwer and A. Burdorf (2013). "Influence of poor health on exit from paid employment: a systematic review." Occupational and Environmental Medicine, 2013.
What Works Centre for Wellbeing (2016). "Housing and wellbeing."
Whelan, S. and R. Ong (2008). "Econometric modelling of housing assistance and labour market participation." Australian Housing and Urban Research Institute, Research Report No. 6.
White, J. (2018). "Children's social circumstances and educational outcomes." NHS Health Scotland.
Whitehead, C. M. E. and T. Travers (2011). "The Case for Investing in London's Affordable Housing." LSE London.
Wood, G. and M. Cigdem (2014). "Neighbourhood Renewal Programs Produce Substantial Non-Housing Benefits." AHURI Research & Policy Bulletin, Australian Housing and Urban Research Institute.
Zero Carbon Hub (2014). "Cost Analysis: Meeting the Zero Carbon Standard."