

SEDA

Build Back Better

SEDA Conference 2020

The Scottish Ecological Design Association magazine

Autumn 2020

£5.00



SEDA CONFERENCE 2020 HOW DO WE BUILD BACK BETTER?





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SEDA was formed in 1991. Our primary aim is to share knowledge, skills and experience of ecological design. SEDA is a network and links those seeking information and services with those providing them.

SEDA's membership is made up of a large number of people involved in, and with an interest in design, principally in Scotland. Members include academics, architects, artists, builders, planners, students, ecologists, landscape designers, materials suppliers, woodworkers, and many more whose work or interest is concerned with design for a sustainable future.

SEDA is a charity and is run by a Board of Directors, who are elected

at Annual General Meetings. The Board is advised by a voluntary Steering Group which meets 8 times a year for discussion and for planning the activities of the Association. All members are welcome to take part in these meetings. SEDA registered as a Company Limited by Guarantee in February 2011.

A SEDA membership is a great way to support ecological design in Scotland. As a member you will receive the SEDA Magazine for free, get discounted tickets to SEDA events and the opportunity to connect with a wide network of talented designers. Our upcoming events can be found boxed in green throughout this issue.

Cover image: David Seel

Editorial team

Nick Domminey, Viktoria Szilvas & Raina Armstrong

With thanks to all our contributors, sponsors, and supporters.

What do you think of this SEDA magazine? Do you have any disagreements or something useful to add to the issues covered? Do you have an idea for an article? Drop us an email at magazine@seda.org

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Editorial

Sustainable SEDA

Nick Domminey

Our Autumn SEDA magazine's masthead is the loose and currently fashionable injunction to "Build Back Better". Along with "sustainable", "green", and other ecological epithets, it is used by environmental campaigners and offenders alike. Rishi Sunak has been known to invoke it as an aspiration while the Telegraph's Phillip Johnson warns that it is a "socialist trap".

The basic premise is that the sociological hiatus created by the Covid crisis requires a "big government" response. But this must not be a reversion to a pre-Covid, CO₂ belching, alienated normal, but an opportunity to reinforce those aspects which people suddenly saw as life enhancing and ecologically desirable.

To explore these issues, we have Sustrans Director, Daisy Narayanan, with an overview of how that premise

might apply to cities. Rabia Abrar of the Wellbeing Economy Alliance and Caroline Rance of Friends of the Earth Scotland both outline a series of guidelines and demands on government aimed at getting Build Back Better built into policy. SEDA's own Gail Halvorsen tackles the thorny and related issue of Scotland's land and how it might be better managed. SEDA is planning a major conference in spring 2021 to look at this matter in more depth.

SEDA's AGM and Conference also offers the opportunity to consider Build Back Better, looking at urban and rural aspects over two evenings of 7th and 8th September; login and book your virtual seat. Chris Stewart's article has the programme and an exposition on the issues. Then, on Thursday 10th we have SEDA AGM, free to all

members, which will offer a chance both to discuss how we implement some of the week's ideas and also hear Chris Morgan launch SEDA's Guide to achieving Healthy Indoor Air Quality, a longstanding and increasingly urgent campaign.

SEDA Magazine editorial team hope you enjoy this season's edition. Please [email us](#) with comments, disagreements or ideas for future issues.

"This was a nice one to get". So said Professor Sandy Halliday on receiving her latest accolade, winning the Women's Engineering Society, Top 50 Women in Sustainability. It was a typically low-key response from the SEDA and Gaia founder member, educator and environmental activist. Among many other projects, Sandy is currently developing a sustainable construction course. It may link in and revitalise the current RIAS Accreditation in Sustainable Construction. ■



Women's Engineering Society
Top 50 Women in Engineering: Sustainability

WINNER

Professor Sandy Halliday
Director, Gaia Group Ltd

Professor Halliday established Gaia Research (now Gaia Group) in 1995 to develop sustainable solutions for the built environment. It currently includes research, design, evaluation, dissemination, training and capacity building. Her own research covers solar air conditioning, the circular economy, zero waste, future proofed, low allergy housing and urban design.

Shaping a Resilient Future...

For a Post-Covid World

Daisy Narayanan



Daisy Narayanan

Daisy Narayanan, Director of Urbanism at Sustrans, on the opportunity presented by lockdown to build back better and prioritise walking, cycling and wheeling in our towns and cities

In 2004 I moved to Edinburgh after having lived for a few years in a beautiful small town in America.

I lived in a gated community right next to a glorious lake with a gorgeous bike trail just off the lake and a gym and pool less than a mile away. Perfect conditions, one would think, to lead a healthy lifestyle?

However, I would drive to the gym to get exercise. I would drive to the nearest shop a mile away to do my grocery shop.

When I felt a bit low, I would hop in my car and drive a few hours for a walk in the mountains to feel better. Moving to Edinburgh changed all of that. I lived in the compact heart of Edinburgh surrounded by people out and about living, working

and playing in the city. It was a shock to the system to be in a vibrant public realm starkly in contrast to where I had just come from.

I walked everywhere, the hills gradually getting easier! I got a bicycle and enjoyed discovering this amazing city on foot and by bike. I felt healthier and happier than I had ever before. In Scotland, our town and city centres have always been the heart of our communities.

Unfortunately, somewhere along the way, in the last 50 years, we have allowed 'unhealthy transport' to be prioritised at the expense of more active modes like walking and cycling.

This has not only had an impact on the attractiveness of our places but more importantly on our health. And as we face a collective challenge in finding our way to recover from COVID 19 and learn new ways of moving forward, we also have an opportunity to recalibrate our

connection; with each other and with the built and natural environment around us. We are presented with a stark choice.

We can return to status quo or we can build back better, drawing on learning from these weeks of lockdown and harnessing the resilience shown by communities across Scotland. The public discussion around how we make our places better and more resilient is not a new one. As the impact of the climate crisis started to get real, city leaders across the UK had started to address a whole range of issues such as air pollution, traffic congestion, flooding, physical inactivity, and social inequality.

There was an acknowledgment that many of these problems arose from decades of car-centric planning in our towns and cities, and many cities had begun to take action to reduce car trips and make it more convenient for people to walk, cycle and wheel.

Over the past few years, I have been involved in collaborative discussions around the quality of our towns and cities; the environmental, social and economic reasons for creating people friendly, 'liveable' places. Because for too many people in our town and city centres, the experience can be a stressful and difficult one.

Overcrowding on pavements and the dominance of the traffic leads to an anxious experience for people with any kind of mobility or sensory issues. Making a street, a neighbourhood, a shopping district



for everyone means creating more space, more time, more greenery, less stress, higher quality of placemaking.

Creating places that people want to be in, rather than briefly pass through. And within the context of an added urgency through the declaration of a Climate Emergency, there has been a clear recognition that we need to build resilience to tackle challenges of the future.

The pandemic has brought this ongoing discussion and action into sharp focus and created an urgency to accelerate change, with examples of rapid, radical action taken across the globe.

It has also shown how, when faced with a huge threat, individuals and communities can rise to the challenge. The City of Oakland launched Oakland Slow Streets closing 74 miles of roads (10% of roads in the city) to through-

traffic: "...so that people can more comfortably use these low-traffic streets for physically distant walking, wheelchair rolling, jogging, and biking all across the City."

The City of Vienna created nine temporary meeting zones, reallocating road space from motorised traffic to pedestrians in areas of high population density with narrow pavements and no parks or open spaces in the immediate vicinity. In addition, it fully pedestrianised 20 other streets. In Scotland, we are seeing real change being delivered on our streets too.

Spaces for People is a new, temporary infrastructure programme in Scotland which offers funding and support to local authorities to make it safer for people who choose to walk, cycle or wheel for essential trips and exercise during Covid-19.

Funded by the Scottish

Government and managed by Sustrans Scotland, this £30m programme has awarded funding to local authorities right across Scotland. The guiding principles are ones of protecting public health, responding to local need, being temporary while ensuring that measures are inclusive and work for everyone.

The connection between better public spaces and economic recovery has never been clearer. People want to go out, they want to connect, they want to once again share and exchange. There is also an understanding across sectors that making space on our streets for walking, cycling and wheeling is key to bringing back economic and social vibrancy to our towns and cities.

Change is not easy or comfortable, but with a collaborative approach I am optimistic that we can find a way to build back better.

The world has changed beyond recognition from that sunny September day in 2004 when I arrived in Edinburgh, but the need to create more people-friendly streets and neighbourhoods has not changed. If anything, there is a much stronger sense of urgency and an imperative to do so.

Daisy Narayanan

Director of Urbanism, Sustrans Scotland

This article was published in the Herald newspaper on 29th June 2020.

Daisy has other articles at www.sustrans.org.uk/our-blog/opinion ■



Scotland's Land

Use Not Ownership

Gail Halvorsen

A major event next spring focused on the present and future of Scotland's land use has been galvanised by COP26 and given urgency by the coronavirus pandemic. The event will take the form of six online "conversations", examining and exploring Scotland's land use & how this could or should change. It forms part of the wider "Build Back Better" movement for a sustainable, more self-sufficient and zero carbon future Scotland.

We have spoken to a wide range of people, charities, NGOs and government bodies involved with land and have been surprised both by how many disparate groups exist with little or no dialogue between them, but also by their enthusiasm for this project. The Hutton Institute is lending its support to the event and providing scientific back up. Scotland



Adrian Loening

is ahead of England where shaping future land use is concerned, with the Scottish Land Commission established since 2016. Part of the current problem is undoubtedly the heritage of the disparity of land ownership in Scotland, but this event will be concentrating on land use

and land management, not ownership.

While many are conservative, there is also a significant minority of landowners and tenants who are doing things differently, including Anders Polvsen at Glenfeshie, Ninian Stuart at Falkland and the Ramsays at Banff. They are all aware of their obligations to combating climate change, increasing biodiversity and involving the local community. For some, the emphasis is on rewilding (Glenfeshie) and for others it is on the local community (Falkland). Jeremy Leggett, former scientific director at Greenpeace, is teaming up with and investing in local timber frame manufacturer Makar for new eco-tourist and affordable starter homes at Bunloit, an estate he recently purchased on the north shore of Loch Ness. With this investment Makar are building a new larger factory on an old airfield near Inverness. The eco-building on Bunloit has the wider aim of deep emissions reduction and Build-Back-Better reconstruction in Scotland.

We hope to end the turf wars over land and open people's minds and encourage them to think about land use in new and exciting ways.

See next SEDA magazine for more details. ■



Gail Halvorsen



Just & Green Recovery

Moving forward to a better, fairer, greener Scotland

Caroline Rance

As we recover from the pandemic, we have a rare chance to transform our society for the better. The deep inequalities and injustices in society have been laid bare, and people have realised the huge failures in our economy. But we also have seen that governments can act decisively in an emergency when they choose.

We know that we must not go back to the 'normal' that was failing so many people and fuelling the climate crisis, but go forward to a better, fairer, greener Scotland.

That's why over 80 civil society organisations in Scotland have come together to demand a Just and Green Recovery from the pandemic and its impacts. Churches, charities, grassroots groups and Trade Unions working across issues of poverty, health, housing, environment and economics, wrote to the First Minister calling for a radical response to the dual crises of coronavirus and climate change.

Working for People

Together we are calling for the Scottish Government to reprogramme our economy so that it works for people, moving away from prioritisation of economic growth and towards goals of wellbeing and sustainability, ending inequality and environmental

destruction. Polling has shown that just 6% of the UK public want a return to the pre-pandemic economy – an overwhelming mandate for change.

We're calling for investment in our essential public services for people, not profit – expanding public ownership of our vital services, including social care, and protecting the key workers who have kept us going throughout this pandemic.

The recovery must also prioritise and protect those who have been worst affected by the impacts of COVID-19. We know that women, disabled people, Black and minority ethnic people, and people on low incomes have been hardest hit. Even before the pandemic, one in five people in Scotland were living in poverty. Government can and must ensure that everyone has an adequate income to live, redistributing wealth to protect the most marginalised instead of handing bailouts to shareholders.

We need to strengthen participatory democracy to engage and empower communities, trade unions and civil society – ensuring everyone has a say in decisions that affect us. And introduce fundamental human rights into Scots law so that safety nets are always in place for the most vulnerable.



Caroline Rance

Build Back Better

COVID-19 unfolded against a backdrop of climate breakdown. The recovery must set us on the path towards a zero-carbon future, not lock us into fossil fuels for decades to come. New investment can create thousands of good, green jobs in energy efficiency, renewables and sustainable food and travel.

In tandem with the Just and Green Recovery Scotland campaign, Build Back Better UK are making similar demands of the UK Government at Westminster. While both governments have said positive things, we are yet to see the scale of vision or investment needed to genuinely transform our society for the better.

If we want to build back better we must seize this moment for real change. It takes all of us to speak out, start conversations, contact our decision makers. It is our future to shape.

Caroline Rance
 Climate and Energy Campaigner
 Friends of the Earth Scotland
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**JUST & GREEN
 RECOVERY FOR
 SCOTLAND**

Building Back Better ...

to a Wellbeing Economy

Rabia Abrar

Our world is facing multiple crises: rising inequality, accelerating climate breakdown and rapid biodiversity loss. These issues are interconnected and stem from the same core problem: our economies are structured, governed, and measured to promote short-term growth over long-term stability. The global pandemic has made the injustice, unsustainability and fragility of our current economic system clearer than ever. This is now impossible to ignore.

What's wrong with the current system?

The current economic system is, in short, unfair, unsustainable, unstable and unhappy.

It is not supporting the flourishing of society as a whole. That's why we see widening economic inequalities (especially as the very richest race further away); levels of insecurity, despair and loneliness; and coping mechanisms that turn people inwards or against each other, as trust in society and in institutions withers away. Many people fear the loss of their jobs, insecurity in old age and the destruction of their dreams and cultural norms.

It is not supporting the planet to flourish. Our home is on the brink of the 6th mass extinction with the prospect of catastrophic climate breakdown getting closer and closer. In the last 40 years, humanity as a whole has gone from using one planet's worth of natural resources each year, to using one and a half, and is on course to using three planets worth by 2050.

The cost of fixing the harm

created by a growth-driven economy, i.e. failure demand, are enormous. Poverty in the UK alone, costs Britain £78 billion every year (Joseph Rowntree Foundation). The good news is that this economy has been designed – and hence can be designed differently to deliver social justice and environmental health, which would prevent this avoidable demand for intervention and expenditure.

The recovery period following the COVID-19 pandemic is a window of opportunity to truly transform our economic systems.

Building Back Better

Recent dialogue has been dominated by the idea of 'Building Back Better', a phrase that has its roots in international development emergency response. It captures simply and effectively the need and urge to create a better system after the crisis.

"Build" is active and participatory.

"Back" suggests that some essential elements of the economic system and indeed daily life will return – but crucially stands in a helpful contrast to the alternative "back to normal".

"Better" is the most important of the three words – our old system is gone. What do we want to build in its place?

The Vision of "Better": A Wellbeing Economy

The Wellbeing Economy movement already has many of the answers, ideas and examples that illustrate what 'better' can look like. If we are to build back to an economic system that is truly 'better', it must be

based on designing policies governed by goals that foster wellbeing for all and harmony with nature.

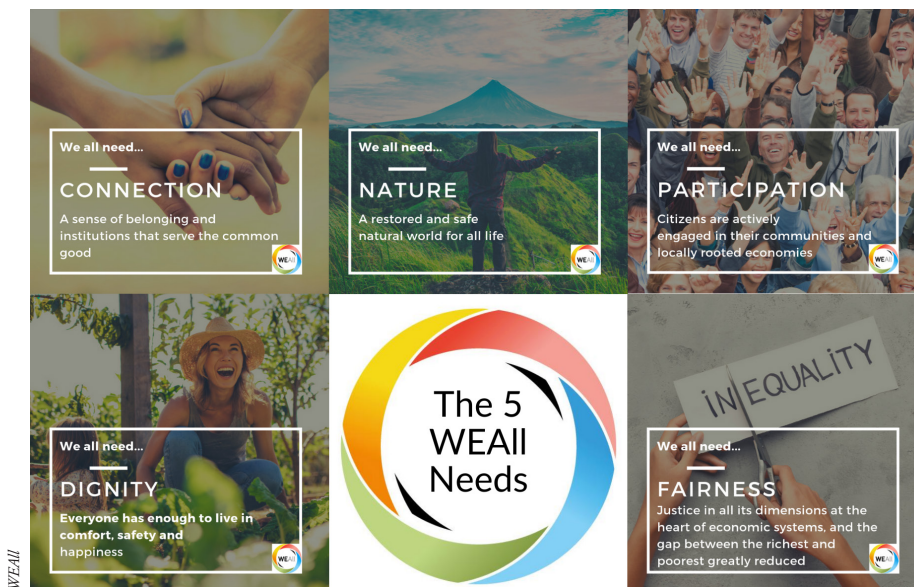
The "Wellbeing Economy" is a broad term designed to be inclusive of the diverse movement of ideas and actions striving towards this shared vision and can be found across a surprising range of texts and backgrounds: it is embedded in the scripts of many religions. It is contained in worldviews of First Nations communities. It can be read in the scholarship of development and in research findings about what makes people content. It aligns with the psychology of human needs and, perhaps most importantly, can be heard loud and clear in deliberative conversations with people all over the world about what really matters to them in their lives.

Many of the component parts of the new economic system already exist, but they are fragmented, under-resourced and fragile. The Wellbeing Economy Alliance (WEAll) was created to address this issue: it is a global collaboration pooling the resources and brainpower of over 150 organisations and movements to work toward the vision of economic systems change.

The Building Blocks of a Wellbeing Economy

A wellbeing economy reorients goals and expectations for business, politics and society around the idea that the economy should serve people and communities, first and foremost.

The WEAll network has articulated the 5 high-level goals a "better" economy must be set up to deliver.



WEAll need...

- 1 Dignity: Everyone has enough to live in comfort, safety and happiness
- 2 Nature: A restored and safe natural world for all life
- 3 Connection: A sense of belonging and institutions that serve the common good
- 4 Fairness: Justice in all its dimensions at the heart of economic systems, and the gap between the richest and poorest greatly reduced
- 5 Participation: Citizens are actively engaged in their communities and locally rooted economies

By delivering on these needs, a wellbeing economy will enable good lives for people the first time around, rather than requiring effort to patch things up. A wellbeing economy

will have equity at its core and be proactively anti-racist, feminist and intersectional by design. WEAll's Old Way to the New Way page outlines how a wellbeing economy will address issues differently – ranging from the climate crisis to the food system to the justice system.

The Benefits of Economic Change

Policies that drive this much needed economic transformation deliver many benefits including, but is not limited to, the creation of economic and job opportunities through the growth of the renewable sector and the circular economy; improvements in environmental quality and equality, with positive effects on health, wellbeing, and economic resilience; poverty reduction and economic and social resilience.

The Wellbeing Economy in Action

Launched in 2018, the Wellbeing Economy Governments partnership (WEGo) is the only living laboratory at scale in the world today, implementing wellbeing economic policies. National and regional governments in Scotland, New Zealand, Wales and Iceland are operating policy labs and promote sharing of expertise and best practices to design an economy in service of collective wellbeing. Already, New Zealand has implemented the world's first wellbeing budget, Scotland has passed climate change legislation with the world's most ambitious goals and launched a revised National Performance Framework, Wales has its world-leading Future Generations Act and Iceland has developed a framework of wellbeing indicators.

A Collective Undertaking

The shift toward a wellbeing economy is a collective undertaking – and requires a cross-sectoral movement to create systemic change. Join over 150 organisations in the Wellbeing Economy Alliance (WEAll), in our collective efforts to Build Back Better to a Wellbeing Economy.

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 #WEAll #BuildBackBetter ■

SEDA Solar

Sunspace Scenarios & Challenging Solar Innovation



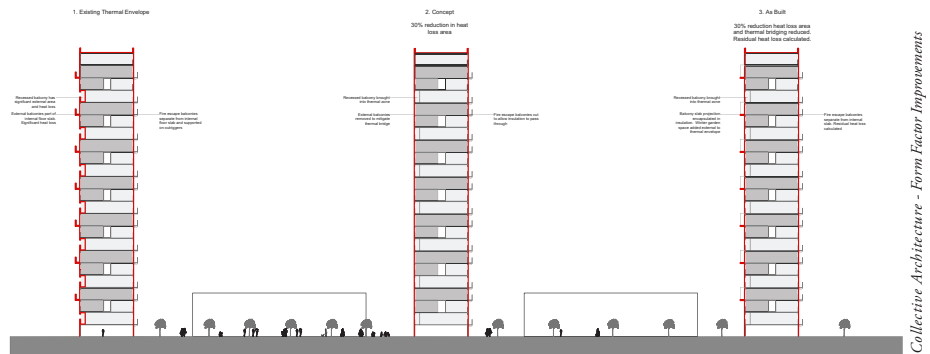
Colin Porteous & Gloria Lo

Sunspaces or enclosed solar balconies ought to play a central role in Scotland, considering that sunny days can still be very windy and it is common to have four seasons in a day. Scotland averages 32% of its daylight hours with sunshine and a similar 35% with rain (assuming half the average rainfall is at night time). Glazing can help as a wind break, rain shelter, and help trap the heat gain even if not in full blazing sun. But do we use them as often as we should in our designs?

Architectural commentator James Steele referred to 'The Solar Cult of the 1970s' in 2005. In reality, modern passive and hybrid solar design became well established in the USA in the 1930s, and, primed by two 1980s 'Passive Solar Architecture in Europe' competitions, continues apace today; e.g. Lacaton & Vassal's recent sunspace housing retrofits in France.

Dampbusters

In the late 1980s and early 1990s, a remarkable community-led initiative for a solar retrofit that eliminated fuel poverty along with scourges of dampness and



Collective Architecture - Form Factor Improvements

mould was publicised during Glasgow's year as European City of Culture in 1990. Community activist, Cathy McComack, directed a community play, *The Dampbusters*. The result was an EU-funded Solar Demonstration Project at Easthall (36 1960s flats), Glasgow.

Details of the project and the process that led to it are held at Glasgow School of Art's Archive (GSA was 'academic subcontractor' charged with 2-year's monitoring). The EU demo was preceded by a trial upgrade of a 6-flat block under a 'Jobs and Energy' scheme of Heatwise Glasgow; in turn preceded by the 1987 Heatfest Community Ideas Competition organised by Easthall's parent organisation Technical Services Agency (TSA) with the Scottish Solar Energy Group (SSEG). Briefly, as existing tenements were randomly orientated, each flat was retrofitted with two glazed spaces, one to front (original balcony) and one to rear (utility room off kitchen); hence adding dual, sometimes sunlit, spatial amenities. Thermally, along with upgraded insulation, glazing and heating, these constituted solar-enhanced buffers and a source of pre-heated fresh air for ventilation; while roof-mounted solar air collectors provided pre-heated domestic hot water.

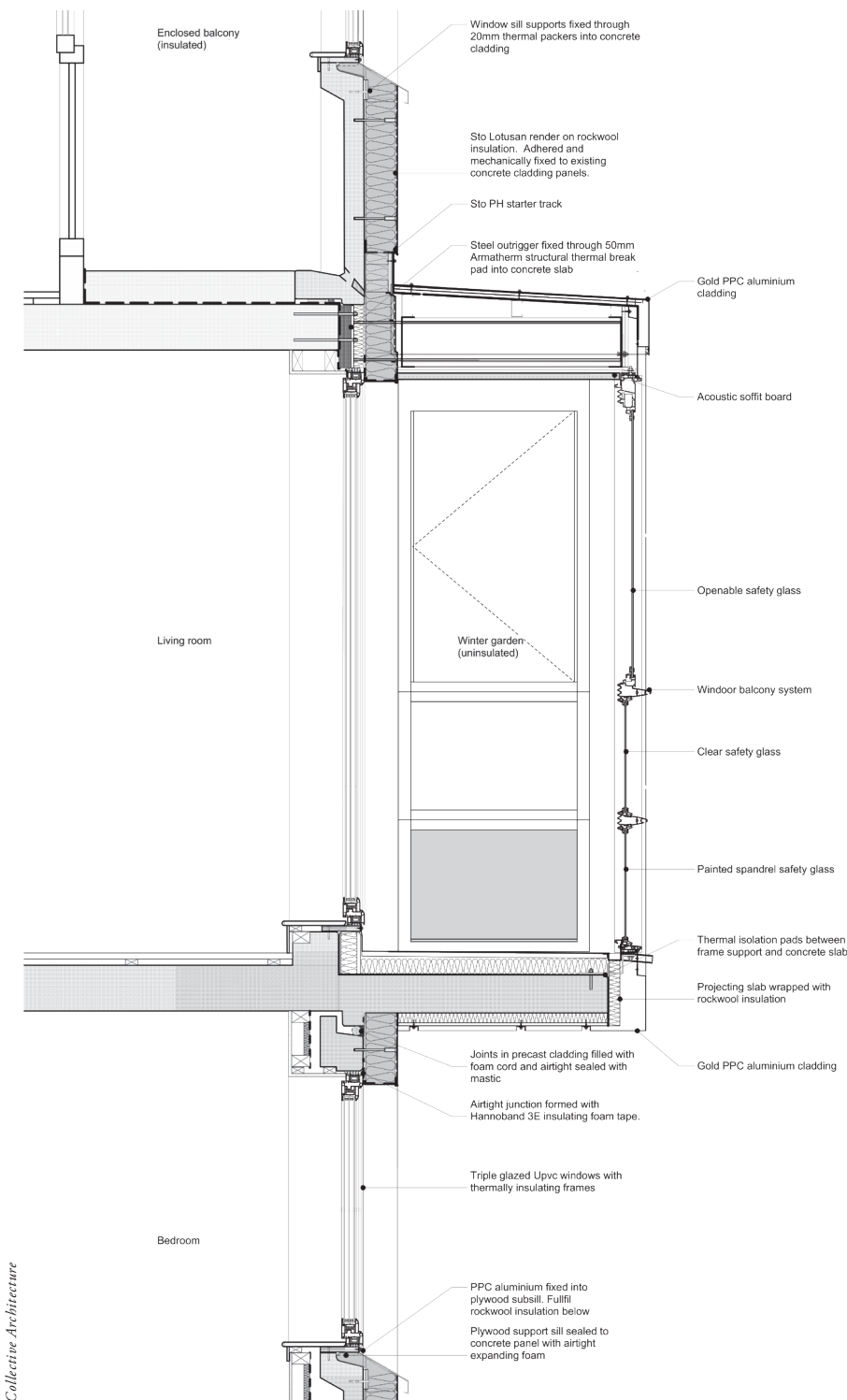
Heatfest placed tenants in the driving seat, helped by students and professionals to propose and present schemes in a live competition. During

the contest, there was much discussion on effective ventilation and heat retention by the groups. The adopted solution ensured air-pathways from sunspaces into heated rooms, with exhaust by extract fans from kitchens and bathrooms, plus passive 'stack' ventilation from the main bedroom. The 2-year monitoring validated the efficacy of solar-ventilation-preheat, key variants are down to occupants' use of controls, including opening/closing vents and windows.

Cedar Court

Today, Collective Architecture's Cedar Court retrofit of three towers for Queens Cross Housing Association near Glasgow's M8, also built in the 1960s, makes for intriguing comparison, with its conversion of former balconies into sunspaces plus upgraded insulation and glazing.

There are two significant differences. Cedar Court's sunspaces employ a proprietary Window folding-sliding, single-glazed system, which allows outside air to filter in when completely closed, reversion to an open balcony when fully opened, and stages in between. Thus it contrasts with Easthall's double-glazed opening windows. The other difference is that whereas Easthall had continuous mechanical extract ventilation (MEV), Cedar Court has mechanical ventilation with heat recovery (MVHR), with a supply register halfway down the living



Collective Architecture

room. Despite designer's intentions, air circulation is fickle, and very dependent on what occupants leave closed or open – a future research project – human vagaries versus engineering?

Solar imagination

Research and appropriate technology were fundamental to SSEG's founder, a mechanical engineer, Kerr MacGregor. Kerr was an innovator, who inspired a generation of energy engineers.

He invented Smart Solar Shades for use with sunspaces in homes. Kerr's problem-solving determination also produced a solar panel that did not

require anti-freeze. SolarTwin marketed it commercially. Then there was his self-built hybrid motorbike with a water fuel tank, and his solar bagpipe! These are just some of the many projects which he engineered, demonstrating his wide-ranging ideas and sometimes whimsical enthusiasm. His true passion was for solar energy, driving throughout Scotland in his biodiesel 'Solar One' van, with hands-on teaching equipment to educate everyone about solar technology; from children in kindergarten, the general public at festivals, to professionals and engineers.

Kerr was the proof that imagination coupled with deep thought can become

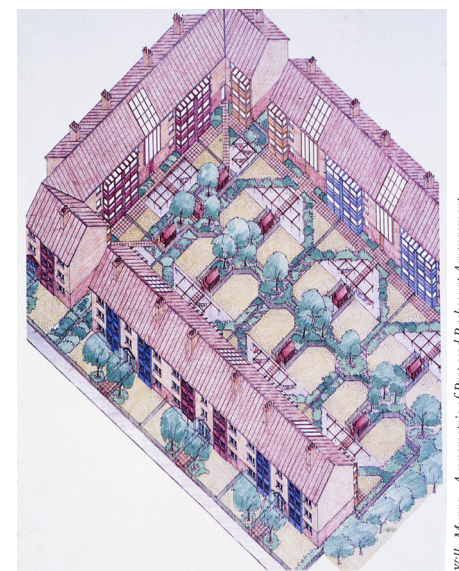
reality. It is with this hope, that we encourage everyone, of any age and walk of life, to experiment, to share the joy of learning and of discovery, and to participate in our Award for Solar Innovation.

Kerr MacGregor Memorial Award for Solar Innovation,

SEDA Solar intend to relaunch the Kerr MacGregor Memorial Award for Solar Innovation, to continue a legacy of a great man. We are open for submissions now to solar@seda.org.uk with a deadline of 1 December 2020.

Entry method is very simple. Just submit one image (photograph or diagram) and a short description, which details why and how the innovation (research and/or prototype) can benefit or expand solar technology. Entries will then be shortlisted for exhibition at the Solar Trade Association Conference in Spring 2021, where the shortlisted candidates will have the chance to present their A1 poster to the judges prior to final decision. For more details on our website with a template for download.

We look forward to your entries in continuation of Kerr's footsteps. ■



Willy Munro - Axonometric of Proposed Courtyard Arrangement

Resurrecting Resilience

In an Uncertain World

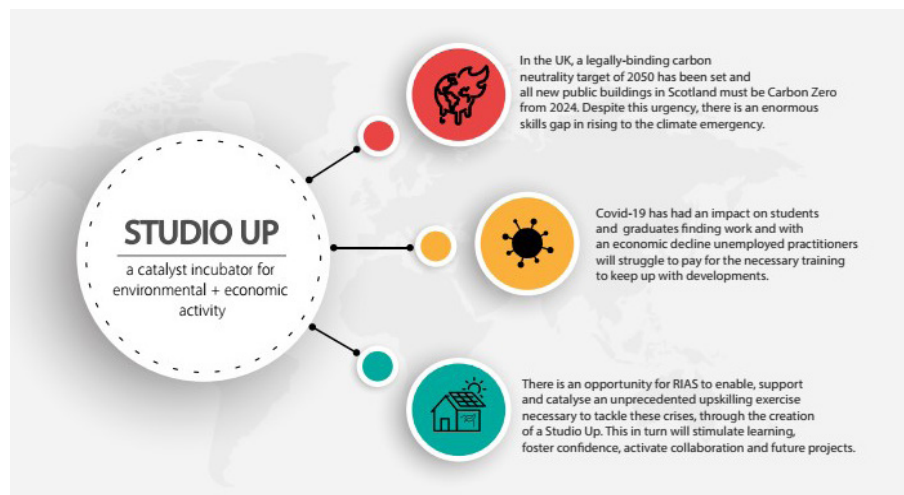
Chloë Yuill & Frances Grant

Frances Grant, a third-year architect student at the Mackintosh School of Architecture (MSA), and Chloë Yuill, an architecture graduate from MSA, reflect on their experiences of learning and consider how resources can help reform our practice.

As educators, architects, academics, students and citizens we find ourselves once more bound by uncertainty. In a time where emergency, crisis, environments and economies dominate our domains the question is valid, is now the time to change our approach? We have been given the opportunity to recreate our practice and so maybe now is the time to look inward, to reset and resurrect our resilience through resource.

Frances: Learning during lockdown

CPD courses have previously carried this stereotypical and arduous presence of being the necessary evil in our industry. To test these testimonials, I undertook my first venture into external CPD learning over lockdown through the UWE Bristol Massive Open Online Course (MOOC). The course aims to facilitate learners with the knowledge of zero-carbon design and construction while addressing the technical, social, and economic challenges which are present in the transition to zero-carbon building. This course initiated my dismantling of the CPD stereotype. These courses are more than racking up CPD hours and technical jargon. Intentionally interwoven within their fabric is a moral, social, and personal incentive that aims to better us as people first; designers second.



The UWE Bristol MOOC course carries obvious technical advantages but what I had not anticipated was its influence on my social and personal behaviour. An emerging self-confidence in my skill set. A reinvigorated approach to sustainable design. A refreshed perspective in lateral thought. An expanded network of industry professionals and a new-found appreciation of the everyday context we design for and those that we impact. Over the course of the five weeks, it became a reset button.

The metaphor of the reset button allowed me to further analyse how external learning aids our understanding of the personal values we hold as designers. Yet, what makes these core values we consolidate upon through CPD resources interesting is that they are unique and different to each individual. Mine transcends in sustainability and utopia. Yours may reflect regenerative development and cyclical economies. But this divergent combination of values is something of a celebration. CPD facilitates this. It makes us an interesting and diverse

generation of thinkers, designers but first people.

Chloë : Studio Up- Net Zero Carbon Incubator

We have reached the time when we all must upskill if we have any hope of realising net zero carbon buildings by 2050. MOOC, as described by Frances, is an exemplar case among many throughout the UK offering various opportunities to learn zero-carbon techniques and combat the climate emergency. Despite this, COVID19 brings a real threat of economic decline, with the Sutton Trust reporting that job vacancies have reduced by 65% compared to last year with thousands of jobs already lost.

A series of workshops in May held by the RIAS Sustainability and Climate Change Working Group, inspired a response to both the Covid-19 pandemic - and its impacts on employment in Scottish architecture whilst concurrently, proactively responding to the Climate and Ecological Emergency. The spark of what would become Studio Up was



ignited. The existing uncertainties created an opportunity for RIAS to enable, support and catalyse an unprecedented upskilling exercise necessary to tackle these crises. Studio Up delivers a net-zero carbon incubator as a catalyst tool for clean and sustainable economic activity and to foster and promote confidence within the construction sector. The platform reaches out to architects, graduates and those who are looking for work and the wider construction industry. The platform provides its community of collaborators with the fundamental resources to upskill and shape a more resilient and sustainable sector for the future.

The primary objective of Studio Up is climate change adaption and mitigation through education and upskilling. Studio Up recognises the vital contribution the construction industry must make in fulfilling the legally binding carbon neutrality targets set by the UK and Scottish

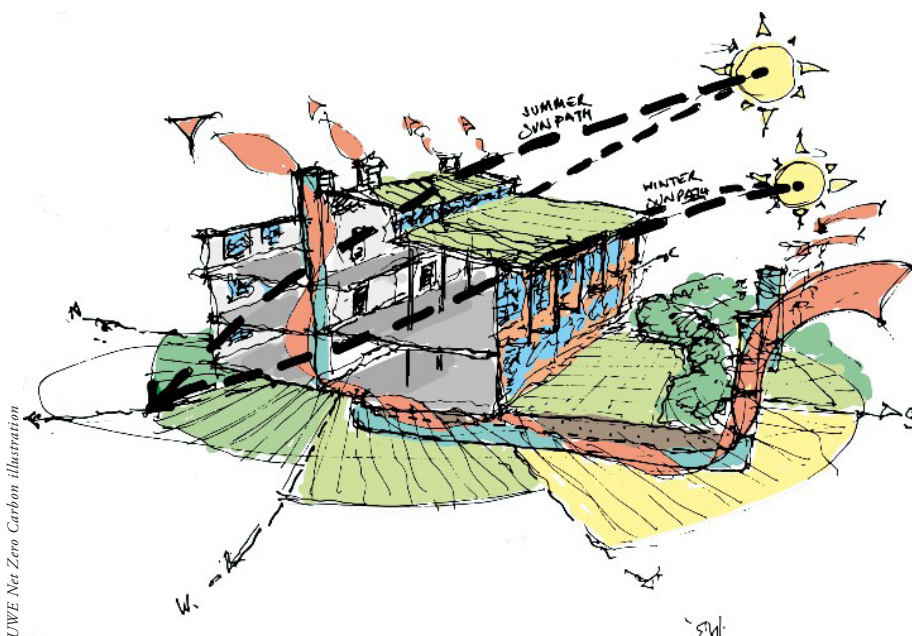
Governments for 2050. Heating our homes and industry alone account for 32% of UK emissions. If we are to improve efficiency in homes, retrofit first and design a more sustainable built environment then we must strengthen research and development and invest in education and skills at all ages and levels throughout the profession. Set against the economic impacts of Covid-19 the incubator will develop an equitable way of attaining knowledge and networks to Build Back Better and ensure improved, more efficient housing, clean air and green spaces for all.

Unlike a typical incubator, Studio Up offers opportunities to increase net zero carbon skills by collaborating with an existing network of innovative organisations in Scotland including SEDA, CSIC, ZWS and ECCI. The Studio Up platform will deliver training in the latest sustainable design techniques and protocols, equipping RIAS

chartered architects and other professionals with the required competencies and tools, strengthening their sustainable credentials. Studio Up combats the economic effects of Covid-19 by providing expert advice about funding, portfolio working and business development support to help set up architecture micro-businesses and produce new business models.

Frances' experience emphasises the genuine value in elective courses; not just learning to rise to code, but to diversify, to inspire, to foster confidence and collaborators to bring to our practice. Her story is one of several that could be created though the development of a platform that facilitates upskilling and a community with shared ideals but diverse skills to meet the requirements of today's world. Studio Up is that platform and will empower a new generation of climate literate and zero carbon design fluent practitioners that will not only shape the resilient profession of the future but will foster confidence, agility and flexibility to transform the built environment landscape and design the future carbon neutral or carbon positive society.

Studio Up is always looking for support and if interested please contact RIAS for more information. ■



Build Back Better

Every silver lining has a cloud

Chris Stewart

We read, hear and say these words. They make sense, they mix a pandemic crisis, the looming recession it spawned with eye watering sums of money, to spit out a shockproof economic solution to climate emergency. What does that mean, what should we do, and has it already been stolen.

Build Build Build

Zoom webinars feed our hunger for recovery plans. We turned on to the Common Weal and Our Common Home, a '14 aspect green new deal plan for Scotland'. We tuned in to Doughnut Economics, 'seven ways to think like a 21st Century Economist'. And dropped out with the Architects Climate Action Network (ACAN) and their three overarching aims, 1. *Decarbonise Now*, 2. *Ecological Regeneration*, 3. *Cultural Transformation*. Loved them all, each a planetary self-help road map to grab my imagination, only to wake up the next day and wonder what to do. They demand major structural change, they are correct however there is another change in town,

Build, Build, Build.

Boris beats this drum down south with their overhaul of the English planning laws. Tearing up what has been an effective system in place since World War 2, they propose a straightforward set of categories; growth, renewal and protection, to encourage automatic planning permission and a reduction in scrutiny. History tells us planning deregulation on this scale, including reductions in mandatory affordable



David Seel

housing quotas, can only lead to ill conceived construction. It will all fly under the banner of beauty, in the form of pattern books and design codes, written and judged by watch this space.

We sit smugly North of the border feeling immune from such thoughts and look forward to the National Planning Framework 4. I was one of those who spent many a midnight hour writing a response to the recent Scottish Government's 'Call for Ideas' in what for me seemed like a real opportunity to Build Back Better. I now shudder when I read headlines like 'Green zealots risk wrecking recovery, top economic adviser warns' in the *The Times* (06.08.2020). This is not a

Boris Johnson chum but the Scottish Government's chair of their advisory group on economic recovery. I am no nationalist however do have faith in Nicola Sturgeon and hope this is just a market economy partisan uttering.

SEDA Conference

It is within this context that I welcome the Scottish Ecological Design Association's 2020 conference 'How do we Build Back Better'. Scheduled between the 07th and 10th of September in a series of three evening events. SEDA offered up some of the best recent webinars including Doughnut Economics, Our Common Home and Meet ACAN, that track record suggests this should be an interesting exploration. On



the 07th September Urbanity will be scrutinised while on the 08th September Rural takes the spotlight. Ideas from both will be presented to the SEDA membership on the 10th September and help form their agenda for the coming two years. All to be revealed at the RIAS Convention on the 29th September.

Build Back Better

Ahead of that, a bit of homework is in order. Build Back Better first emerged from the Central Java earthquake of 2006 by the Japan International Cooperation Agency Reconstruction team. It is a simple common sense concept, eventually

defined as a holistic concept in those ponderously titled, far from easy reads 'Disaster Risk recovery for Economic Growth and Livelihood, Investing in Resilience and Development' and 'Recovery and Reconstruction an opportunity for Sustainable Growth through Build Back Better' both penned in 2015 and adopted by the UN. Today the movement is fronted by the straightforward 'Build Back Better', a recovery plan based on five principles: Secure the health and needs of everyone in the UK now and into the future; Protect and invest in our public services; Rebuild society with a transformative Green New deal; Invest in people; and build

solidarity and community across borders.

'How do we Build Back Better' does not appear to have an easy answer, free marketeers pull it in one direction while so called green zealots tug it in another and all the while the climate emergency clock keeps ticking. Please join SEDA in September for a wee scratch of the head and a think, how can we just get on with it.

For more information on the SEDA conference please visit seda.uk.net/events

For more information on the RIAS convention please visit riasconvention.squarespace.com

SEDA Conference & AGM 2020, On-line

Monday 07th September 6.00-7.45pm

HOW DO WE BUILD OUR CITIES BACK BETTER?

On Zoom, £4 non members, £2 SEDA Members and concessions

With Graham Ross of AS:L Architects, Deborah Hay of The Joseph Rowntree Foundation and Professor Ken Gibb of the University of Glasgow

Tickets from: sedaconference2020urbannight.eventbrite.co.uk

Tuesday 08th September 6.00-7.45pm

HOW DO WE BUILD OUR RURAL AREAS BACK BETTER?

On Zoom, £4 non members, £2 SEDA Members and concessions

With Ailsa Raeburn of Community Land Scotland, and Magnus Davidson of the University of the Highlands and Islands

Tickets from: sedaconference2020ruralnight.eventbrite.co.uk

Thursday 10th September 6.00-8.00pm

SEDA AGM, and Discussion: SEDA priorities for BUILD BACK BETTER

Featuring Chris Morgan of John Gilbert Architects, previewing the next SEDA Guide to achieving Healthy Indoor Air Quality

SEDA Members only, free admission

Tickets from: sedaconference2020agm.eventbrite.co.uk

Supporting Sustainable Renovation

An investigation of policy proposals for Scottish Government

Chris Morgan

In July the UK Government announced a £2 billion fund - the Green Homes Grant - to be spent on improving energy efficiency in homes across England and Wales - but not Scotland. More detail was released in early August.

The principal mechanism to encourage uptake of energy efficiency measures (EEMs) will be via a £5,000

voucher which would pay for two-thirds of the costs of a tradesperson installing insulation and / or various renewable heating systems. Poorer households may receive up to £10,000 and the poorest would not have to contribute at all.

Perhaps the most important aspect is that it appears that the fund will be available in September but will need to be spent by the end of March 2021. This

does not leave a lot of time and - with anything that is rushed - there is a risk that works will not be as well considered, or as carefully installed as they might be.

Despite not being available in Scotland this is clearly a good thing and insofar as it is means-tested to some extent and leads to improvements taking place that might otherwise not have happened, it is to be welcomed. Early criticism of the grant appears to have borne fruit in that works can now only be undertaken by tradespeople approved under the Trustmark scheme, which responds to fears that the fund would have encouraged 'cowboy' builders. In addition a 'Simple Energy Advice' service will also run to help people make choices on what to undertake.

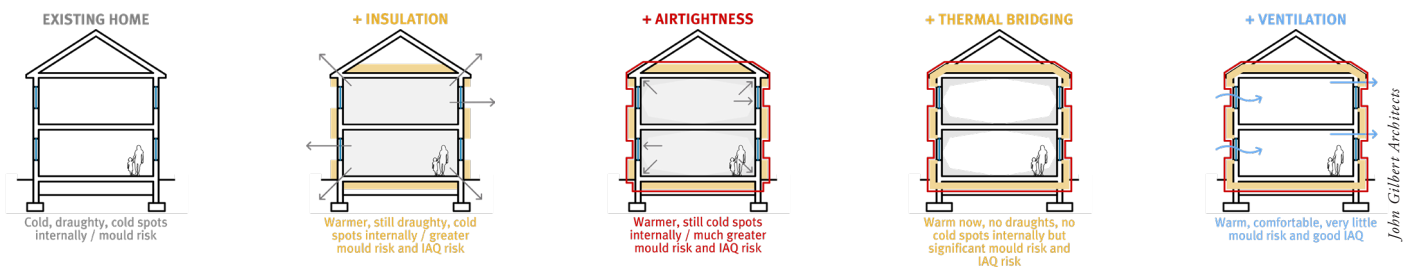
Scottish green homes?

Whilst the money will not be available to us in Scotland, the announcement precipitated a welcome debate on what sort of support we should expect from government. From a SEDA perspective, I would imagine we would all agree that: there is a climate crisis to which all government activity should be responding, and that there is clearly a dearth of available funding so we need to use it as wisely as possible.

With that in mind, our concerns about the fund and the way it has been set up are, that whilst it will no doubt lead to some carbon emissions savings and fuel poverty reduction, it will not achieve anything like the savings it could have done. Indeed it may well cause other problems - and costs - which will go some way to negating the benefits achieved elsewhere.

This is the nub of the problem we have elaborated on in the Sustainable Renovation Guide available from SEDA and its main funder, the Pebble Trust. If you





install EEMs without an understanding of how they affect the whole house, and if you don't independently check for quality there is a real risk that the works don't achieve the savings anticipated, and in addition cause 'unforeseen consequences' which create problems for health and building integrity, along with possibly significant costs elsewhere. The diagram illustrates this when considering insulation installation, for example.

Supporting Sustainable Renovation

Following the publication of our

Sustainable Renovation Guide which discussed the principles of a more holistic approach to retrofit and a number of practical examples, we were encouraged to investigate a range of policy proposals which could be actioned by Scottish Government and other agencies to provide the wider context with which these efforts could be best supported. We have produced a pamphlet with 15 policy ideas. It is free and downloadable from both the Pebble Trust website & the SEDA website www.seda.uk.net/pebble-trust/

[sustainable-renovation-pamphlet](#)

The policy ideas are presented in four sections: policy and procurement, the design process, the build process and the occupancy period. They include well-worn ideas such as equalising VAT on retrofit vs. new-build, more controversial ideas like nationalising SAP and others focussed on ensuring the sort of design overview and site quality checks noted above, along with ideas to help people living in homes save energy and improve air quality. ■

Giroscope Self-Build

Coltman Street, Hull - Part The Third

Duncan Roberts



Since the last update, the frames of the second & third houses have been successfully raised using an electric winch. The pulley was attached to the apex of the preceding frame to give sufficient vertical pull to lift the frames into position.

All three houses now have their rafters in place & additional work is being carried out to form the dormer windows - one to each house - together with the

entrance porches to the North side.

The roofs will soon be sarked using a T&G bituminous fibre board manufactured by Hunton Fiber & imported to the UK by the Panel Agency. This material was also used on the five self-build houses built in Ballingry, Fife in the late 1990's & has been a staple of timber-framed projects ever since.

The roofs will be covered in Santoft 20/20 clay tiles with a mix of PVs & Solar

Hot water panels integrated into the tiles. The dormers will be zinc-clad.

The doors & windows have been ordered through the Green Building Store after a fascinating Covid-restricted trip to visit their show-room near Huddersfield. Delivery is due by mid- October, by which time the roofs should be covered & the walls framed to receive the windows straight from the delivery lorry.

Wall construction is a double stud arrangement lined internally with OSB & sheathed externally with the same board as will be used on the roof.

Giroscope's volunteer programme is still in lock-down mode at present & so all the building work has been carried out by a small team with a maximum of four people on site at any time.

Once the shells are wind & water-tight & the Warmcel insulation pumped in - early in 2021 - the project will move on to the fitting out stage where the work will be familiar to the Giroscope team from the 120+ refurbishments they have undertaken over the last 35 years. ■

Hempcrete in Scotland

Regenerative potential

Tom Woolley & Rachel Bevan



Rachel Bevan Architects - Hands on hempcrete class

Hemp and Lime composite walling is one of the most exciting ecological forms of construction, providing superb thermal performance and a great way to achieve healthy and sustainable buildings. Hempcrete is a lightweight solid walling system often used with timber frame. There are numerous options, cast around a timber frame with temporary shuttering, sprayed onto shuttering, used as blocks or in prefabricated panels. It is also a very useful retrofit option which can be cast, sprayed or plastered onto existing masonry walls.

Hempcrete has been widely used ever since the construction of two houses in Haverhill in Suffolk in 2000. Architect Ralph Carpenter¹ and the BRE were able to demonstrate that the hempcrete houses outperformed two identical houses with bricks and mineral wool insulation. In 2008, the BRE published the Guide to Hemp Lime Construction² and since then hemp lime has been used in hundreds

of buildings including huge wine and food warehouses³, a 6 storey University building in Bradford⁴ and many private and social houses. Hempcrete housing in Elmswell, Suffolk was designed by this year's RIBA gold medal winners⁵. Hempcrete is increasingly being used to retrofit old buildings. Gordon Brown set up the "Renewable House Programme" with £6.7 million in 2008 and this led to 12 innovative housing projects, mainly using hempcrete, but some with strawbale, wood fibre and sheep's wool⁶.

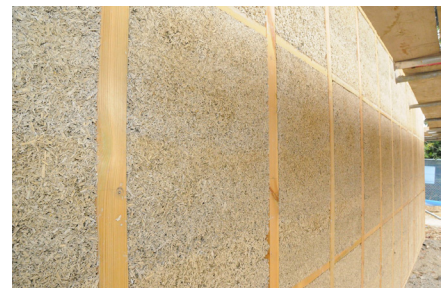
There are at least 12 hempcrete houses in Scotland. In 2019 Rachel Bevan Architects designed a hempcrete house for clients in SW Scotland but had some difficulty with local building control, despite other hempcrete houses having already received building warrants. In order to overcome this problem, Rachel managed to obtain LABSS approval⁷. Design Stage Approval for this latest project has now been given and is currently on site.

Hempcrete can be used in floors and roofs as well as walls. Hemp shiv,

the chopped and dried woody core of the hemp plant, is mixed with a lime binder and water. It sets remarkably quickly and shuttering can be removed within 24 hours. Building with hemp and lime is a relatively simple process and can be understood by any good builder with appropriate training so it is easily adopted into mainstream construction. It's important to use the correct mix proportions, though these can vary according to how it is being used, and controlling the correct amount of water is also essential. The hemp and lime is normally mixed in a horizontal forced action mixer and then tipped into shuttering and lightly tamped. The spraying process is a little different. Wall thicknesses are typically 350mm to 450mm and as thin as 50mm if sprayed onto existing walls.

Currently the main source of hemp shiv is in Yorkshire⁸. Specialist lime binders are made in Northern Ireland⁹ and Shropshire¹⁰ but some architects specify materials imported from France even though some overseas products contain significant amounts of cement. Hempcrete is very popular with self-builders and environmental activists and we have run numerous training workshops around the UK and Ireland, Canada, Chile, Poland, Holland, South Africa and hope to do one in Scotland some day! A film about a hempcrete house we built for ourselves in Northern Ireland has been viewed many times¹¹.

Hempcrete provides insulation



Rachel Bevan Architects - Hempcrete wall in construction



Rachel Bevan Architects - Hempcrete cottage County Down

that has excellent thermal-mass and is also vapour permeable. Finished with an NHL lime plaster means that plastic airtightness membranes are not necessary, simplifying the construction build-up. While the “u” value of a hempcrete wall can be good enough to pass building codes its performance in practice can be much better than predicted, due to the thermal-mass and humidity regulation. Hempcrete is shown to have a nominal thermal conductivity of 0.07W/mK and a Vapour Resistivity of 10MNs/gm. A wall construction comprising 350mm of Hempcrete will give a U-value of 0.20W/m²/K. Hempcrete houses can maintain a

Relative Humidity of around 50% all year round and most hempcrete buildings stay at 14-15°C without any heating.

It is essential to use breathable finishes and paints and hempcrete buildings are normally finished externally with a lime render or rainscreen cladding. Hempcrete provides a fantastic opportunity to create low-carbon buildings and can easily achieve nearly zero performance due to carbon sequestration of this crop-based material. Hempcrete construction is economically viable, even with the higher labour costs of installing the hempcrete. Hempcrete has been demonstrated to

be very fire resistant and is an excellent way of ensuring good indoor air quality. Interest in hemp has grown significantly in recent years so care should be taken to get the best advice, rather than relying on a growing number of questionable guides and web-sites!

Hemp has huge regenerative potential as it has many agricultural benefits with valuable uses from the fibre, CBD (if legal) and as a food and oil source. Hemp can be grown in Scotland and as it locks up carbon more quickly than other bio-based materials it can make a huge contribution to the push for zero carbon. ■

| Scottish Hempcrete projects that have received building warrants | | | |
|--|--|---------------------------------------|-----------------------------------|
| Highland | Private dwelling | Dunsmore Lodge, Beaully | Native Architects, York |
| Orkney Islands | Netherbreck, Blomar Hiolar | Graemeshall Road | Native Architects, York |
| Argyll & Bute | Private dwelling, Colonsay | | Native Architects, York |
| Perth & Kinross | Tombreck, Lawers Aberfeldy | | Ecological Architecture LLP |
| Perth & Kinross | House Rynachulig Farm Killin | | Ecological Architecture LLP |
| Perth & Kinross | 3 Bedroomed House | Croft house Tombreck Lawers | Ecological Architecture LLP |
| Perth & Kinross | Single Storey Extension, Blackhaugh Farmhouse, Spittalfield | | Ecological Architecture LLP |
| Angus | Two Storey House Extension | Careston Hall, Careston Brechin Angus | Ecological Architecture LLP |
| Highland | Oak-framed private house | Tigh Crom Achabeg, Morveen Peninsula | Roderick James Architects RJA LLP |
| Highland | Oak-framed hempcrete private house | Ikwig Achabeg, Morveen Peninsula | Roderick James Architects RJA LLP |
| Fife | Monimail | | Tom Morton Architects |
| Dumfries & Galloway | Gatehouse of Fleet | | Rachel Bevan Architects |
| Lothians | Private dwelling, Hagbrae Farm, Gorebridge (approved but may not go ahead) | | Halvorsen Architects |

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- <http://www.mikhailriches.com/project/clay-fields/#slide-2>
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- <https://www.k-rend.co.uk/products/k-lime/hemp-lime-binder/>
- <https://www.lime-green.co.uk/>
- <https://www.youtube.com/watch?v=zOVNlKXcEBw>

We run training workshops. For a quotation contact tom.woolley@btconnect.com



Rachel Bevan Architects - Elmswell hemp housing in progress



Black Lives Matter

Housing refugees in Scotland

Robina Qureshi

2020 will be remembered for many generations – a global pandemic, tragic death toll, unprecedented lockdown restrictions and huge changes to daily life. 2020 will also be remembered for the Black Lives Matter movement for justice and against racism. In Glasgow, these two factors have collided in an ongoing humanitarian crisis around asylum seekers' universal human right to housing and an adequate standard of living.

Homes and Justice

In 2019, the UK Government awarded Mears Group - a private outsourcing company, a ten year contract for asylum accommodation and support services in Scotland. The UK Government web page says the £1.15 billion contract is for “a particular focus on assisting individuals through the asylum system. They will ensure that vulnerable asylum seekers have access to the support they need and set clear requirements on the standard and condition of accommodation.”

In 2020, in the middle of the pandemic, Mears pulled asylum seekers out of their flats with as little as an hour's notice and put them into overcrowded hotel accommodation without the required risk assessments. At the same time, their £5.39 daily living allowance was stopped. Asylum seekers reached out for help and local organisations responded.

Mears were warned about the physical and mental health risks this created. Mears ignored the warnings. In Glasgow we saw the tragic death of two asylum seekers and six people being severely injured, including one police officer. A National Audit Office



Robina Qureshi

report also reveals that in the first four months of the contract, Mears was fined £3.1 million for various failures.

Hostile Environment

In Glasgow, courageous whistleblowers, sustaining pressure from campaign groups and media attention, forced some hotels to eventually begin providing decent food, cleaning rooms and making laundry facilities available. Many basic human rights were won, but only through struggle. Unfortunately, systematic mistreatment and humiliation by Mears and the Home Office continues. This reveals what the UK government calls the “hostile environment.” We must say it loud and clear, Black Lives Matter and this includes people seeking asylum and refuge in the UK.

At time of writing, some people are being moved back into flats, but many into flats they've never seen with several being uninhabitable – not maintained or cleaned. Some people have been asked to sign a document (without translation or interpreters), a waiver of people's right to seven days notice before being moved in the

future. Again, asylum seekers are being moved with little or no consultation, access to money, food or Wi-Fi (vital for contacting family).

Positive Action

Mears and the Home Office have questions to answer about their failure to assess the mental health of people left vulnerable at the height of the pandemic and lockdown. Questions also about two decades of misery created by forced dispersal and multi billion-pound asylum contracts awarded to the lowest bidder, including companies unqualified to deliver the necessary support services. Questions about making asylum seekers fear that if they complain it could impact on their asylum claim. This is why Positive Action in Housing and hundreds of organisations and individuals are calling for a full, independent public inquiry. Please visit Positive Action in Housing on Facebook or at paih.org/category/latest/ to add your name to the call, donate or volunteer. ■

Robina Qureshi is Director at Positive Action in Housing.