CLIMATE JOBS
building a workforce for the climate emergency

BUILDINGS

GIVE US A JOB
insulating homes

NUMBERS AND METHODS

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BUILDINGS GENERALLY...
... but I am going to focus on HOUSING
CLIMATE CHANGE COMMITTEE

Update an assessment of the costs and benefits of low-regret climate change adaptation options in the residential buildings sector


It was commissioned by CCC’s Adaptation Committee for the purpose of presenting updated cost curves for a range of building scale adaptation measures for the UK, updating previous workings developed by Davis Langdon (2019) as part of the “Research to identify potential low-regrets adaptation options to climate change in the residential buildings sector” project.

Topics

- ADAPTATION
- CARBON BUDGETS AND TARGETS
Building a green stimulus for COVID-19

A recovery plan for a greener, fairer future

0.5 Zero carbon trajectory

Green New Deal UK

CND Rising is a movement of young people calling time on
SO HOW COULD IT BE DONE?

Green homes investment can benefit everyone in a post-Covid world

Adapting the UK’s housing stock is crucial to tackling climate change, and the task can create jobs in an economy harmed by coronavirus. By using and sharing our city’s expertise, Bristol can show the way forward.

EXAMPLE OF HOW TERRACES IN BS5 COULD BE REDEVELOPED IN PHASES WITH ONLY 3% APPROX BEING RENOVATED AT ANY ONE TIME, AND STILL FINISH CITYWIDE BY 2050

POST CORONA RETROFIT PROJECT - SOME EXAMPLE FIGURES

- Likely to be an underestimate, which will affect the other figures – this is in progress to illustrate the principle, scale, and potential of such a project. Note that approximately 7% of the UK’s housing (please refer to Table 1) is currently in need of renovation. For example, if 1,000 homes were renovated at a cost of £10,000 per home, this would create 3,000 jobs and save approximately £10 million per year.

- A rough estimate is shown below (please refer to Table 2) for the potential benefits of retrofits, including energy savings, reduced carbon emissions, and improved building performance.
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Please see separate notes on assumptions & methodology for each column
WK/CCC 210115
(360000 average a year)
HOW DO YOU COUNT – AND FILL – JOBS?

APPENDIX 2 – WHERE WILL THE WORKERS COME FROM?

The numbers involved look large. However, after much discussion and circulation for comment, I think they are realistic.

In terms of what is needed: we have less time to do more, and the inherent reality.

And in terms of workers who will be available, who will not need the training, or the “leadership” of trained workers acknowledged in construction, it’s also corroborated by the Grant, in massive part because of the shortage of certificates.

EXISTING RETROFIT BUILDERS

There are an estimated 160,000 workers currently working on buildings. Our premise is that these workers can be trained for the new job market, or need the training, or the “leadership” of trained workers acknowledged in construction. It’s also corroborated by the Grant, in massive part because of the shortage of certificates.

EXISTING OTHER BUILDERS

Beyond these are the remaining 2 million plus building projects including large-scale roadbuilding, HS2, speculative developments in selective market hotspots, and out-of-town developments. These scenarios will decline, and workers will be needed.

OTHER WORKERS LOSING JOBS

But the central premise of the NCS is that it will allow reduced costs in industries affected by decarbonisation.

It’s important that we all recognise the level of change that is needed. But at the same time, we need to create a stable and fair world economy which will be capable of recovering. We cannot over the coming decades/centuries, will mean more than the nature of the work being reorganised, in the way that we do things: costly, carbon-intensive and polluting, and of workers.

Repairable and shareable homes will need to include modifications and amenities that make that work: work-related transport will need to be relocated to leisure will need to become the norm. More people will be required to work in the building and design the landscape, repair things – less people will be required to work.

So not only would we expect sectors like fossil fuel extraction to decline, there will be – needs to be – a decline in other sectors. Climate Jobs pamphlet overall is based on finding roles for workers in the new economy that do not need fear an absolute shortage of workers, even though it will move to new sectors like renewable energy, sustainable materials etc.

APPENDIX 1 – HOW DO YOU CALCULATE JOBS? A COMPARISON

The commonest way we have seen this done is in “new jobs for a year per million spent” or “job-years per million”.

So far, the number of jobs calculated in “new jobs for a year per million spent” or “job-years per million”. It is time to look at the full range of jobs for a year per million spent” or “job-years per million”.

The NEF Green Stimulus paper which informs our own argument above, includes the generation of jobs per million. If we calculate this, we get over 9 jobs per million.

9 million homes done in 4 years by an average of 209,000 workers – 7.5 homes per worker.

If the average cost of the energy measures is £15,000 (based on limited measures), then that means each worker is “costs” (or installs/creates) 7.5 x £15k = £112.5k each.

Which gives us 9 million (£1.125bn) per million over 4 years.

We have chosen to reduce the productivity slightly above 7 homes per worker (209,000 homes) for the more labour-intensive package of work that we would propose. This gives us 9 million.

Another way is knowledge of how long it takes to do a particular job. This is about the nature of the work being reorganised, in the way that we do things: costly, carbon-intensive and polluting, and of workers.

That means one worker can complete an average 0.5 retrofit homes. The figure reflects the density of the task, and the difficulty of “shutting” it. With these retrofit homes, there will be around 37,500 homes per year, or 27 job-years per million.

We have chosen to reduce the average spending to £50,000 per home – we believe the effective whole house intervention, once we have the necessary size and scale, running efficiently – of £50,000 per (job-year) if the time taken remains the same as this figure would also mean it would need to be extra subsided, at least initially. These figures give 40 job years.

The figures for deep retrofit illustrate why we have chosen to limit the number ofjob-years per million. The figures for the lighter package of measures are however consistent with modelling.
• hundreds of documents
• hundreds of emails
• lots of debate
• some facts changing all the time
• some solutions maybe becoming out of date
• other arguments may no longer hold
• all done in people’s spare time

reviewed and advised by:
AECB Green Register PHT members
local councillors
architects and builders
council maintenance manager
energy co-op members
academics
and others...

... and data continues to change
ON SITE

(photos from URBEd – please contact wolfgang.kuchler@virgin.net if you want to reproduce them anywhere public)
ON SITE (photos from URBED as note on previous slide)
WHY WOULD I TRAIN TO RETROFIT?

Why would I train to retrofit?

There is a skills crisis. The rest of the public sector, further education which could play such a significant role in teaching and delivering the skills needed for a transition, has been decimated by funding cuts and failed policy initiatives.

The problem lies in the approach of successive governments which is dominated by market-led thinking. The government’s Skills for Jobs White Paper, published in January 2021, contained only one sentence on the green economy. This is the same year as the UK government hosted the COP26 climate talks. The plans prioritise yet again narrow business interests over the demands of students for an education which equips them for the future, in skills and training for the work that could deliver solutions to the escalating climate emergency.

Vocational education (FE) colleges and universities are key to imparting the knowledge and skills required by young people and the existing workforce for a transition to a green economy. Further Education (FE) colleges and universities are key to imparting the knowledge and skills required by young people and the existing workforce for a transition to a green economy. Further Education (FE) colleges and universities are key to imparting the knowledge and skills required by young people and the existing workforce for a transition to a green economy.

There are jobs in “climate critical” sectors such as energy, transport, retrofitting homes and workplaces, nature conservation and an expansion in agro-ecological approaches to agriculture. To deliver the work and build the type of workforce outlined in this...
QUESTIONS WE ARE ADDRESSING

• massive skills shortage - how can you plan to retrofit millions of buildings without the workforce?
• how can workers in aviation and other sectors best use their skills, and keep decent jobs?
• massive cuts to local authorities - how can you coordinate a national plan?
• what is the best way to spend time and money when we are up against the climate clock?
• how realistic is mass retrofit? will people want to be involved?
• how do you upgrade homes in a fair way, given different incomes and tenures?
GIVE US A JOB growing food
GIVE US A JOB insulating homes
GIVE US A JOB looking after the land
GIVE US A JOB making bikes
GIVE US A JOB fixing things
GIVE US A JOB in clean energy
GIVE US A JOB looking after the old, the young and the sick
GIVE US A JOB in clean transport
GIVE US A JOB baking bread