Are We Prepared?

A resume of the key messages from the LCAG conference

Monday 26th January at Merchant Taylors Hall

Please check out the powerpoint slides to follow up any specific details

The conference opened with LCAG Founder and Chair, Alderman Alison Gowman followed by an overview by Sheriff and Deputy Keith Bottomley, representing the Lady Mayor,

Deputy Keith Bottomly reminded us we are facing the greatest of challenges with climate change and emphasised:

- Extreme weather events will be become more frequent and severe.
- Extreme weather will impact supply chains.
- Roads, Rail and buildings not designed for heat and wet.
- Livery is powerful tool/strong force for change.
- The City was 1st to publish a science-based climate strategy.
- Remember that the City one of the loudest voices in the chorus.

Kate Neale, Climate Action Director at the City of London Corporation's key messages were.

- City Corporation is focused on aligning planning with the City's climate goals – ensuring the buildings and streets can cope with climate change.
- There's a comprehensive series of targets to decarbonise both the Corporation's activities and the City more widely.
- Only 1% of emissions are from residents, while 64% from commercial and industrial buildings and 26% from transport – need to focus on commercial and industrial targets
- The Transition Finance Council is building in resilience by 2040 to achieve a cleaner, greener square mile through low carbon buildings, heating and cooling networks and green infrastructure.
- Successes: London is an attractive business location – with effective use of resources, investment in future skills mitigating the effect of the climate island effect.
- Climate projections for the Square Mile: Max temps rise by 5°C by 2050 giving warmer wetter winters, sea level rise and more extreme weather events – more days of heatwaves!
- Identified risks are: flood, overheating, biodiversity loss, disruption to supply chains and disease.

- Heat networks are seen as the best solution to reduce the 75% of City dependent on gas. Embodied carbon in concrete is significant. Planning applications need to consider alternative options

Baroness Brown of Cambridge. Chair of the Adaptation Committee within the Climate Change Committee showed compelling data.

- Highest temperature records achieved over recent years with notable impacts:
    - Today 50% of top grade farmland is at risk of flooding
    - 33% transport (road and rail) at risk of flooding – will rise to 50% by 2050
    - 6.4 m properties at risk of flooding – will rise to 1 in 4!
    - 3000 heat related deaths today – will rise to 10000 by 2050
    - Farmers already reporting climate impact on crops
    - Over 500% increase in callouts for fires – highest since WW2
- Expect max temperatures to rise to 45°C by 2050 as maximum temps rise 4x as fast as average temps! Extreme winters will be more frequent and sea level rise up to 67cm by 2050 with notable implications for storm damage
- We need a country adapted to climate change considering
    - Land nature and food
    - Infrastructure – communication systems, power & water (and transport) are vulnerable
    - Built environment and commuting - Need active cooling
    - Economy - international supply chain disruption due to flood, heat, drought
    - Finance – issues with insurance – insurance is based on past claims (the old world)
- See report *"Vision for a Well Adapted UK"* – due May 2026
- Hope that things will change as people like new tech eg Texas too hot to grow crops now therefore used for solar cells so the 'oil state' has the fastest growing green energy.

Conclusion: that we shouldn't simply wait for a magic technology, we should just get on with it

SESSION 1 ***"Is the City prepared for reporting and responding to the financial risks that will result from climate change?"*** with Alderman and Sheriff Robert Hughes-Penney, Mark Babington of the Financial Reporting Council and Kevin Parry, Chair of Nationwide Building Society and chaired by LCAG Executive Member David Chitty.
Key messages:

- Financial institutions have a priority to deliver returns and seek to find markets performing strongest to grow investment

- Looking at the past decade: the first 5 years were characterised by low interest and there was an appetite for green investment whereas last 5 years saw higher interest and reduced investors' appetite for green investment.
- Financial Reporting is important for the reporting of risks ensuring the provision of information to support investment decisions.
- The challenge is that the 'right' information doesn't remain the 'right' information and all reporting systems have their flaws – the EU system too granular while US omits climate impacts
- People want to see their pensions doing 'things' as well as making money. There are a range of interest groups pulling in different directions and there's a need to balance across the whole of society – making a better world.
- We need to provide information on both business risks and opportunities and realise that 'one size doesn't fit all'.
- In response to a question from a student - Most important skills are critical thinking and the ability to exercise judgement – along with a healthy scepticism and not being afraid to ask difficult questions.
- Reporting should focus on business achievements and not just on processes
- Need an appetite to incorporate Climate Change into financial assessments: 20 years ago it was reported as 5%, and now it's still only 6% so a lot of people are disinterested or are leaving it to the corporate space to decide.
- Investors want returns but the risks are grossly underestimated
- High energy costs (UK is 3 x US levels) and high taxation levels dissuade green investment – need lower costs to incentivise investment in new technologies

Conclusion

Transparency is needed to inform decision making. London has a good track record but we should not mandate 'everything' and should determine what information is required i.e. what is important.

SESSION 2 ***"Risks to life"*** chaired by LCAG Executive Member Gordon Masterton with Tim Munday, the City's Environmental Resilience Officer and Dr Pierre Masselot of London School of Tropical Medicine.

Tim Munday's Key Messages

- Always keep a clean bucket in the house and a water butt in the garden
- Basements could be the difference between life and death in the future
- We all think we are special and that 'things won't happen to us'. To motivate we need to make people 'feel' and not just think.
- In selecting the location of London, the Romans overlooked potential for surface flooding and sea level rise
- Need higher flood defences to tackle fluvial flooding and better ways to deal with water run off

- Risk from sea level rise is a North Sea tidal surge which could bring destruction akin to the Great Fire – will need to replace the Thames Barrier by 2070
- London City is 5°C warmer than the countryside – need more green spaces and cool spaces – recommended 'Rain Water Gardens' eg like raised beds to capture water and grow plants ideally located alongside walls to absorb heat.

Pierre Masselot's Key Messages on the Direct Impact of Temperature on Mortality.

- Increase in heatwaves will bring heatstroke with problems associated with
    - Cardiovascular
    - Respiratory
    - Genitourinary (kidneys)
    - Mental health
- The most vulnerable are elderly, pregnant and those with co-morbidities eg diabetes. Heatwave in 2022 resulted in 1000 excess deaths in 3 days
- Cold is also a killer – in fact 9x more cold related deaths than heat related
- Need to focus on adaptation of the lived environment – active cooling in buildings, green and cool spaces in urban spaces
- Notable drop in particulate matter in the air over 15 years but still need to tackle emissions from transport.

Conclusion: Climate change has already led to excess deaths, and this will only get worse in the future. We need to consider how we adapt to heat but still need to reduce emissions.

SESSION 3 ***"Are our buildings prepared for climate change?"*** chaired by LCAG Executive Member John Pike with Dr Philippa Simpson, Director of Buildings at the Barbican, Dr James Ritson of University of the Built Environment, Reading and James Fisher of BRE Group.

Philippa Simpson's key messages in **'Protecting a Brutalist Icon'** were

- The key challenges are
    - Climate change
    - Embedded carbon in concrete/cement
    - Biodiversity
- Future aims for the Barbican
    - Inclusive design
    - Maintaining heritage fabric
- Example of the Barbican Conservatory and the trade-off between visitor comfort, embodied carbon and access, Lakeside trade-off between energy use, embodied carbon and comfort. For interiors - a trade-off between efficiency and heritage.

Conclusion: There is always a tension between climate adaption and heritage conservation.

James Ritson's key messages from ***'The Crossroads of Adaption and Mitigation'***

- UK's unique challenge is the world's oldest housing stock with 4.7 million pre1919 dwellings.
- 80% of the housing in 2050 already exists
- Adaptation would require 450 full refurbishments every day between now and 2050
- For adapting older houses there is a tipping point beyond which extra expenditure brings limited benefits
    - Spending £3-4000 brings 50% reduction in emissions
    - Spending £1500 increases this to 80%
    - Further spending makes little difference
- House usage has changed eg working from home means some building are now half empty
- Maintenance has greater effect than retrofitting/replacing – saves at a greater rate
- Need to rethink the 'standards' applied to housing eg the EPC rating which was designed for newbuilds only – we should better measure actual performance
- Replacing a building requires 30 years to recoup the embodied carbon.

James Fisher key messages on ***'Resilience that Pays'***

- BREEAM certification covers new-builds, refurbishment and fit out and in-use.
- Overall conclusion is that we should use a building for as long as possible
- Need to consider full life-cycle analysis for building taking into account embodied carbon
- Need also to consider refrigerants and the carbon impact of water
- Standards should take into account how building materials behave eg the thermal mass of stone and how it works
- Buildings should NOT use virgin material if possible
- Don't choose 'maintenance free' items as this means they can't be maintained and simply deteriorate and fail
- Look for novel materials eg hemp for insulation
- EPC is based on limited set of information and should not be used to determine whether a building can be used/rented etc
- Careers fairs should consider the full scope of emerging technologies and trades

Conclusion: the impact of embodied carbon is seriously underestimated. Standards need to look at full lifetime analysis of materials used and how the house works.

SESSION 4 ***"How fragile is our food chain?"*** chaired by Alison Gowman with Lucinda Langton, Head of Sustainability at M & S and Prof Tim Lang Emeritus Professor, City University.

Lucinda Langton's key messages in ***'Building Resilience in M&S Food Supply Chain'***

- Outlined M&S Plan for Farming launched in 2025 emphasising sustainability with the strongest sourcing standards from 360 fruit and vegetable suppliers and 9300 livestock suppliers.
- Have ascertained risk for top 50 raw materials
- Farmland 7x size of London in UK is at risk at flooding.
- Water is Number 1 impact of Climate Change for food production
- Plans for farming
    - Backing British
    - Sustainability and regenerative farming
    - Standards
    - Investing in people
- Programme over 5 years
    - Expand environmental standards
    - Improve farm outcomes
    - Manage water risk in regions most at risk of flooding, drought and water pollution
- Reduce water risk
    - Integrate water standards into environmental standards
    - Support WASH (water sanitation and hygiene) standards
    - Support WRAP for environmental standards in packaging
- Innovation in Carbon Reduction £1M invested over 3 years including
    - Green hydrogen
    - Methane reduction
    - Biochar

Professor Tim Lang's key messages

See report for the National Preparedness Commission *"Just in Case"* NPC-Just-in-Case-Main-Report_PDF-Download.pdf

See his book *"Feeding Britain"*

- Data points to catastrophic outcomes if we don't tackle climate change
- Food: need to ask "What do we need in a crisis?" and "What do we need to survive?"
- Government has 'National Resilience Framework' but it ignores food!
- Currently we get food 364 days per year with overall excess food production
- Risk is crop loss and crop variability

- What happens in a crisis is ‘panic buying’ and stores have to impose rationing (think Covid)
- Challenge - 9 retailers provide 95% of food through 131 delivery hubs
- Tesco has only 20 hubs – a crisis (eg cyber attack) could take out the whole food delivery chain.
- Need investment in a new food storage infrastructure (as Sweden does)
- The lesson of food resilience is to create a decentralised distribution system – currently UK has no stock and no storage
- Need to learn lessons from 1936/1939
- Should we persuade people to stop eating meat? Difficult to produce beef without carbon emissions
- Should we be using farmland for solar? Farmers can make money more reliably via solar but should be growing food.
- Food growing will need to move ‘up the hill’ to avoid flooding.
- Currently we are feeding people badly due to over processing – food is the major cause of issues with the NHS
- Need to scale up localised food growing eg Flintshire Wales has 150 families sharing 4.5 acres – has added benefit of social interaction. Cities should buy up land for food production around them.
- Could we invest in food storage warehouses? Yes, to work towards a decentralised model – 1 in 5 trucks on the road is transporting food – and half are empty!

Conclusion: Need to rethink UK food production and storage aiming for a decentralised system.