

Local authority investment in trees and green infrastructure for multiple benefits.
Held on 24th September 2024. Questions, comments and references
Partners: ICF, IHE, LI, UDG

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Chair: **Julia Thrift**, Director, Healthier Placemaking TCPA

Demonstrating the cost benefit for trees and green infrastructure using CIRIABest

Adrien Baudrimont, Senior Research Manager, CIRIA

Making the case for local authority investment in green infrastructure

Dr Ingo Schüder, Director, Brillianto

TreesAI – What we’ve learned in Glasgow and beyond

Chloe Treger, TreesAI UK Lead, Dark Matter Labs

Coed Caerdydd – a 10-year programme to increase tree cover

Christopher Engel, Project Manager, Coed Caerdydd, Cardiff Council

Partners: **Institute of Chartered Foresters, Institute of Highway Engineers, Landscape Institute, Urban Design Group**

QUESTIONS, COMMENTS AND REFERENCES BY TOPIC

(We have done our best to put comments in the right place! The most useful elements are the many references attendees have provided, otherwise all to be read in conjunction with the recording and the presentations)

Adrien Baudrimont explained the origins and evolution of CIRIABest and what the new version can do.

<https://www.ciria.org/Books/ciriabest.aspx?WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91>

The tool has been heavily updated and is now a licensed tool, allowing us to host and maintain it. If interested to give it a try contact me - Adrien.Baudrimont@ciria.org

Questions included:

- Have you had feedback on what the Tool has enabled to happen on the ground?
- Does the model have any tie in with the BNG metric, e.g., using same data for canopy mass?
- How much or little data is required to generate results?
- Does the quantification thought process use the I-Tree Eco quantification methodology as a basis?
- Are results given in annual figures, or some sort of lifetime? (If lifetime, how is capitalisation rate chosen?)
- Since the official definition of Green Infrastructure is specific to infrastructure that addresses water quality and stormwater runoff, is your statement more about the Urban Forest ecosystem rather than specific to water quality?

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Calculation tools

There is a separate tool for calculating BNG - see
<https://naturalengland.blog.gov.uk/2023/03/28/measuring-biodiversity-net-gain-publication-of-biodiversity-metric-4-0/>

There are lots of tools to measure value out there. The EKN tools assessor project helps you to understand which works best in your context
<https://ecosystemsknowledge.net/resources/tool-assessor/>

There is also the TDAG First Steps in Valuing Green Infrastructure guide too -
<https://www.tdag.org.uk/first-steps-in-valuing.html>
It's a little dated now, but the thoughts behind how and why to value and what makes a good valuation tool are still very relevant

Ingo Schuder outlined his work on making the case for local authority investment in Green Infrastructure for Oxfordshire.

From Ingo:

The Infographic, full and summary report for Oxfordshire here: Making the case for Investment in Green Infrastructure in Oxfordshire
<https://www.oxfordshire.gov.uk/residents/environment-and-planning/countryside/natural-environment/environmental-policy-and-planning/green-infrastructure> as well as an ongoing project for Bath and NE Somerset.

Questions included:

- Is green infrastructure the silver bullet that will fix all these issues? Have before/after studies been done for evidence.
- Question: One of the problems seems to be to get cross departmental budgeting i.e. will Oxfordshire health contribute to GI for the health benefits and therefore reduced health costs etc...?
- This still calls for more central government funding it seems... there is only so much developers will/can contribute
- I can't do the sums quickly enough but the costs of not investing look very concerning...!
 - This has been captured in a great deal of research as "avoided costs". Check out ISA as well as Research Gate
 - From Ingo: the cost of 7 sustainability issues in Oxfordshire was " billion in 2020. A new calculation (including biodiversity loss and Climate Change resulted in £2.5 billion for Bath & North East Somerset - we could not believe it ourselves. We triple-checked those figures several times!
- Does the report take into account trade-offs? Bigger tree belts may reduce noise pollution, but could increase feelings of unsafety and travel distances = more sedentary behaviour and car use?
 - Does it depend where the tree belts are...i.e. along the A34 probably not a problem?
 - From Ingo, yes, at this scale of investment, we need to do a spatial analysis where and how we need to plant trees to achieve the desired benefit in the most cost-effective way (Mapping the problem to find out where to plant trees)
 - With colleagues in the Edge (www.edgedebate.com) we are pressing for a comprehensive land use framework for a national framework and then drilled down to regional and local so that we get our heads around where is the best thing to do anything with land. Fingers crossed that Defra, MHCLG, DESNZ and DfT will work together on this.

- Because climate action isn't a statutory duty for local authorities, they are likely not to see it yet as a priority - even though we in the industry know that it's worth it and connected with health etc - how can we change this?
 - <https://www.gov.uk/government/collections/climate-change-adaptation-reporting-third-round-reports>
 - What are we asking to include in these statutory duties? Climate adaptation? Climate mitigation? Or both?
 - Would mandatory adaptation reporting help? Like what happens in the infrastructure sector?
 - Most (all?) have net zero policies and Action Plans. Biodiversity gain is also statutory (Env Act).
 - I'm a climate scorecards assessor - net zero policies vary hugely around UK, some not even tied to a target date. Climate isn't statutory. BNG is but yet to show how the 30 years maintenance / monitoring will actually play out - restrictive covenants? How do these get transferred? Sect 106? How enforce when planners so strapped for cash/time?
 - Environmental sustainability critically relies on economic and social sustainability as well. they're all fundamentally linked. Without the social change to back these changes and not just funding but continued funding long term before we can create the changes described
 - I was thinking LAs' enhanced biodiversity duty, not BNG. How it will be measured/proven is another matter - officers may still need reminding it exists!

- Were you able to verify the 1:4 principal in practice? i.e. how do propose to track the returns on these investments?

- How does this plan marry up with the governments goals to build on greenfield?
 - From Ingo: The optimist in me says that with Biodiversity net gain, development on greenfield land (often arable?) is an opportunity to create Green Infrastructure - the realist in me says , yes, but only if we have buy-in and a strategic plan!
 - We are all well aware of the arguments to increase GI spending and the benefits that can bring to society and the economy but we are talking to budget holders who work in organisations with very real and pressing concerns and strains on their budgets, for example a local Council have recently spent £1m in 12 months on a single family in crisis. These are statutory functions with a moral aspects as well and this is just one small example of unbudgeted spending, that Council has a budget of £500m and is restructuring and losing staff, this is the reality of the scenarios we are stepping into. We need to embrace new housing targets and use BNG, canopy cover, green spaces policies etc to use private money to fund our public green spaces in the future
 - From Ingo: agree, we need to use all levers & tools available to release funding.
 - Agree but also win the point of how GI can help with some of the other problems and so reduce costs in those areas for fairly small investments
 - Community Tree Nursery Collaborative a useful network for establishing community tree nurseries. Would be good to see land use planning for CTNs (e.g. combined with allotment plots, where water and security provided as standard).
 - Notts do this - and apparently Cardiff do too!
 - In all of these strategies for tapping into funding resources, is there any thought to sustaining what already exists?

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If you are interested in trees and Climate Action, feel free to follow me on this Twitter account <https://x.com/myzerocarbon> also content on Green Infrastructure on Twitter (X) – feel free to follow me! https://x.com/brillianto_GI

If you would like to explore how I may be able to do a similar piece of work on making the case for investment in Green Infrastructure for your Local Authority, please get in touch via consultancy@brillianto.co.uk

GI database

Free searchable database with 2000+ resources on green Infrastructure, trees, nature-based solutions and more here: <https://brillianto.co.uk/GIRL/> (next update out within a week!) kindly funded by the T CPA.

Chloe Treger presented current work by the Dark Matters Lab starting with the sobering comment that people born today will experience a +3 degrees centigrade world.

- 40 degrees in UK cities! What is your projection for cities on the equator? Do you believe they will become uninhabitable?
 - Yes!
 - <https://www.weforum.org/agenda/2021/10/climate-change-could-make-some-areas-of-earth-uninhabitable-by-2500/>
 - <https://storymaps.arcgis.com/stories/2545ecd62e594005bb196b0ba962d7cb>
 - And some areas will become more habitable as they warm.
 - But the costs of that are too high!!!!!!
 - Climatologically more habitable, but I wonder what happens if natural systems and the way humans live with them become out of balance?
 - Flooding is also down to upland catchment management , better management of riparian strips and who knows maybe the re-introduction of the Eurasian beaver....

How to prioritise funding?

£94 trillion is required for infrastructure investment globally and the UK is falling behind with infrastructure investment (and maintenance). How to fund this?

- One suggestion made is that the primary value of the Urban Forest is driven by canopy. Carbon storage and sequestration are important but where trees excel is air pollution mitigation, stormwater interception, building energy savings and improved physical and mental health - all canopy driven and that drives the need for the planning for and management of large canopy trees, starting with what is already in the ground. FUND THAT FIRST!!!
- I've been in local government for 24 years and trees etc have never had enough money as the budget holders are dealing with issues such as adult social care with people in crisis, not easy to convince them to give more money for green spaces.
- Do we need more regional and local funding i.e. more in the hands of the local and less in the central/Treasury pot?
- I think UK/General and Local Govt are short sighted and really need to embrace environmental issues. Local Govt are underfunded so it would have to come from Central Govt or Private funding (those who are affected as you say)

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- LA Planning is now reduced to regulatory and statutory functions. The pro-active areas like development corporations, strategic projects, capital programmes have been cut to the bone & with them the people/ skills lost. Government was very bold after WW2 & created also sort of new vehicles to rebuild towns, country & people. Logic is great; fear & hope tends to move politicians more alas.
- And the Govt are more interested in house building which is putting more strain on the environment....
 - There is some research work going on looking at whether we actually need all this new housing...
 - So investment does work: with political buy in, key individuals who work in the same location for a long time and have a real passion @Chris Engel, community involvement and lots of good will.

Lack of standards

Agree about problems with lack of standards...vital that there we don't have confusion as this leads to inaction

Dark Matters Lab pilot projects

Are you actively looking and will there be a cost to Councils?

- Chloe Treger - we could be interested in finding out more about the stormwater you mentioned at the end of your presentation - Rachel.bryan@portsmouthcc.gov.uk (SJ: sent to Chloe)

Current Dark Matters Lab work on flooding and storm water

Given the recent heavy rain and flooding, have you had any outcomes to date about the value of the stormwater work?

- From Chloe: for now we're still calibrating the flood model for England (as we only had it for Scotland) but definitely had a bit more interest.

I think it's fascinating how during summer people are more interested in talking about heat (when they feel the threat) and during wet weather, the risk of flooding - a good reminder on how we approach comms!

Chris Engel presented the work of Coed Caerdydd and the city's ambition to raise tree canopy cover from 18.9% to 25% - a tall order!

Questions and comments included:

How does Coed Caerdydd minimise mature tree canopy loss?

How is your team funded (i.e. staff costs)?

Valuing Cardiff's urban trees is here

https://cdn.forestresearch.gov.uk/2017/11/cardiff_itree_final_full.pdf

Was it the political agenda that put pressure on the highways team or do you just have very good highway engineers?

Could you expand on the Community benefit fund some more? What issues does this overcome?

Fantastic SuDS projects in Cardiff! A couple SuDS Awards winners like Greener Grangetown and most recently Wood Street, adding trees and BGI to a very mineral street section, working with highways.

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<https://www.susdrain.org/SuDSAwards/SuDSAwards2024/SuDSAwards2024winners>

How many staff do you have on delivery?

Are you looking to target street trees to improve urban resilience? if so, then costs are much higher, is this something that you are considering?

How do you handle mature trees on roads and highways? Is there any willingness to address the needs of mature trees to maintain them in a healthy condition, rather than cutting them down and plant new trees?

Draft local plan out for consultation. I'm asking the planning team NOT to delete MOL/green belt or put it up for development but create community / council growing projects e.g. street trees etc and sell to other boroughs as sustainable income and green job creation.

My home city of Kiel did a daylighting project of a former infilled canal/ lake/ part of the Kiel Fjord <https://www.polis-award.com/teilnehmer/holstenfleet-kiel-kleiner-kiel-kanal-b4f124b3/>

(In German use browser to translate into English)

General discussion points

Community nurseries

Community Tree Nursery Collaborative a useful network for establishing community tree nurseries. Would be good to see land use planning for CTNs (e.g. combined with allotment plots, where water and security provided as standard).

- Take a look at the Tree Council website - there is loads of info on setting up a tree nursery - lots of webinars on their YouTube channel and their book 'The tree growers guide' is really clear and helpful
- Check out the Tree Musketeers in Hackney for community tree nurseries and volunteering <https://www.treemusketeers.org.uk/>
- Copse in a box is a great video series on YouTube around the foundation of tree nurseries too!
- More local to Lewes, Special Branch: Special Branch Tree Nursery - Home (specialbranchtrees.org.uk)

Tree Production Capital Grant - GOV.UK (www.gov.uk)

Housing and development and biodiversity net gain

Are there already existing trees on this development site that would bring in the BNG policy? Are any of these trees protected under local ordinance?

In Scotland, it will depend on the site assessment models set up to assess potential sites for allocation as housing. These now need to reflect NPF4 which is very strong on climate change & biodiversity. challenges

3-30-300 <https://treeconomics.co.uk/recordings/webinar-3-the-3-30-300-rule/#:~:text=The%20'3%2D30%2D300%20rule'%20is%20an%20evidence,nearest%20high%2Dquality%20public%20green>

BNG does not have an enforcement component so the Developer might make a commitment but it's not enforced

At Portsmouth City Council the Green & Healthy City Team are hosted within the Public Health team which is really great in helping tie GI with health benefits

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Canopy cover

Tree policy for Oxfordshire <https://www.oxfordshire.gov.uk/residents/environment-and-planning/energy-and-climate-change/tree-policy-Oxfordshire> deliver on the ambition to increase canopy across Oxfordshire

Treconomics did an iTree study for Oxford in 2015, which may have had a positive effect on current thinking <https://www.treconomics.co.uk/wp-content/uploads/2018/08/Oxford-Canopy-Report.pdf>

Will the TDAG First Steps in Urban Tree Canopy Guidance relate or align with Natural England's Urban Tree Canopy Standard published in the NE Green Infrastructure Framework?

- It is looking at the strategic issues around tree canopy cover and references what is happening. We have a second document in mind for canopy assessment at site level.

Tree inventories

I think Birmingham's trees are listed. Big ones are tagged so you can report against the number if needed.

They are also plotted using this commercial software <https://uk.pg-cloud.com/BTP/>

Many Australian municipalities have done an I-Tree Eco project to establish ecosystem services quantification

West Lothian Council use Treeplotter for their tree inventory.

Anne Cruikshank - many councils use software such as Ezytreez to map and manage their trees

Sydney is far ahead with urban tree mgmt. as we've had climate change disasters in the early 1992 (I used to live there for 15 years)

Also tree ID Tags in Queensland <https://www.lfwseq.org.au/plant-id-tags/>

Trees need to be recognised as part of our critical infrastructure alongside all other aspects of infrastructure - the fifth utility?

It isn't standard practice. Oxfordshire and Birmingham have all their assets on Tree Plotter, as referenced above - but it can be time-intensive to log every tree as an asset alongside carrying out a safety assessment of the tree

Canberra has some (but not all trees registered)

<https://www.cityservices.act.gov.au/trees-and-nature/trees/act-tree-register/registered-trees>

UKCEH has done lots of work on citizen science. Citizens can be trained to identify & monitor trees - start here: <https://www.ceh.ac.uk/our-science/citizen-science/citizen-science-apps>

Regarding mapping trees as individuals. London has done some great work on this: London tree map | London City Hall I know at least one Borough (which one alludes me!) that maps trees in their local area to give each one a distinct ID to help showcase the trees in the area and help with managing them

Thanks for the comments - my concern is that as well as mapping, they are included by councils on asset registers and valued/treated as assets (investment/maintenance).

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Many LAs have established a monetary value for their trees using the CAVAT or similar tools. It should not be difficult to transfer this data to the asset managers?

Definitely not attributed value - as a volunteer Tree Warden, I try to emphasise CAVAT and ecosystem services (iTree via Treezilla)

Here is the CIRIA project on Asset Management for Blue-green infrastructure I mentioned, get in touch if you want to get involved.

https://www.ciria.org/Research/Projects_underway2/Asset_management_of_blue_green_infrastructure_-_guiding_principles.aspx

Trees as infrastructure

If we keep referring to trees and treed landscapes as "infrastructure" it diminishes the living aspect of these components of our urban ecosystem. Can we please refer to this as the Urban Forest and use Green Infrastructure as it was defined by the EPA in the Clean Water Act as installations that address stormwater management and water quality?

- I don't think that infrastructure needs to be seen as something inanimate. I understand the connotations it pulls up, but I think if we are going to drive investment at scale, we need to see the importance of these "living infrastructures"
<https://acceleratela.org/fieldkit/>
- SJ: One reason to include trees as part of our critical urban infrastructure is to engage with the language used by engineers and those involved with 'grey' infrastructure...at one point we all started to talk about green infrastructure engineers! I don't see it diminishing the living aspect of trees - we all know that they are the largest living element in our environment...but, especially for street trees, we need to get everyone to subscribe to their equal value with lamp-posts, bollards, utilities et al!
- Trees as living infrastructure?
- Green infrastructure should gain the same monetary value as grey infrastructure on a political level.

Planning for climate change

Useful info about planning for climate change here: Climate Change - Town and Country Planning Association (www.tcpa.org.uk)

Many thanks to all!

Our next TDAG online seminar is on 29th October on Designing with trees - something that we have not given sufficient thought to - https://bham-ac-uk.zoom.us/meeting/register/tZMkdeyupz8uEtNkg6AeYcUIgC-n_pStu_2d#/registration

Sue James for the Trees and Design Action Group