EAUC-Scotland Conference
The Elephants in the Room

Tuesday 26 November 2019
The Lighthouse, Glasgow

Scotland
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The Alliance for Sustainability
Leadership in Education

What does a Climate Emergency mean for Us?

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Climate change adaptation and mitigation are not an either or – higher mitigation will mean there is less need for adaptation, and vice versa. Everyone in our institutions has a choice about how much they mitigate, and so how much others have to adapt, but not everyone has that choice. Either way we are not moving fast enough.

We can't choose a no climate change future now, but we can influence how bad it might get.

The Paris Agreement, developed in 2015 and ratified in 2016, ramped up efforts by saying global temperature rises should stay well below 2C, with efforts to keep below 1.5C, informed by the best science and on the basis of equity. However the individual pledges which countries made following this don't add up to even avoid the 2C temperature rise (although this is better than the 4C path we were on before).

It is hard to attribute extreme weather events to climate change, but we are now seeing a broad range of examples all over the world and affecting places differently depending on their level of development, and this is with a 1C temperature rise. The impacts we are seeing at 1C on ecosystems and biodiversity are already severe, and will be much worse at 1.5 or 2C. Climate impacts are killing people as well as inconveniencing others.

There is still a strong relationship between economic growth and carbon dioxide emissions, as you can see from the global emissions trends and the points where this 'blips'. GDP increase = increase on Co2 emissions. We therefore can't just focus on the physical science to solve the problem, we also need to consider economy and society.

Ambitious national greenhouse gas reduction pledges would need to challenge lifestyles, and that is harder to do. Over half Local Authorities have declared an emergency (now what?)

In the UK the commitment has been increased from 80% reduction in emissions by 2050 to net zero, partly because of the strength of the youth voice through the school strikes and Extinction

Rebellion, and over half of local authorities have declared a Climate Emergency. Lots of other organisations are currently working to understand what the science means for them.

Primary driver of climate change is carbon dioxide in the coming decades. Global temperature is directly linked to cumulative emissions (primarily energy use) because of how long carbon dioxide stays in the atmosphere. We need an urgent and transformational change in the energy sector.

Carbon budgets need to be used to inform carbon dioxide reduction strategies – considering the area under the carbon emissions / time curve. If we don't change soon we have to change faster – the zero date doesn't matter as much as the total area under the curve.

Tyndall Centre are working on the SCATTER Project with Local Authorities, looking at setting carbon budgets by region then local authority, then figuring out the policies needed to reach that budget. Generally the policies identified won't get the full way there, but if you start what you can immediately then work on the rest you might still stay within the budget.

There is an innovation gap, which is a social, political, financial, regulatory and technological problem. The terminology is also complex, with issues such as direct vs. indirect emissions, different scopes and the challenge of deciding on targets based on what is mandatory vs. what is moral all confusing the picture. This is much more than just a problem with infrastructure.

There is a hierarchy of action which should be considered when taking action:

1) Reduce energy needs – question the what
2) Reduce energy needs – question the how
3) Improve energy efficiency – investing in technology
4) Decarbonising supply – onsite generation

We can also influence through our buildings, infrastructure and facilities, people and community, education and student experience, and leadership and experimentation. This can be by reframing investment decisions, developing new policy and procedures, and identifying and sharing where knowledge and finance gaps exist. See the slides for examples.

A few interesting examples from the Tyndall centre were outlined, including their travel strategy decision tree. Alice has also attended a networking event as an ipad attached to a Segway, which was an interesting experience!

Universities have a high level of influence in terms of building the capacity of students, harnessing the capabilities of staff, and sharing with and learning form stakeholders and partners. Our credibility on climate change rests on us changing our estates and influencing our supply chains.

Is our Commitment - mandatory or moral?

The sector has four key elephants we need to address:

- Academic and researcher connectivity
- Student mobility and international student numbers
- Research that maintains our fossil fuel lock-in
- Life-long learning to increase mobility

However, we also have four key opportunities:

- Understanding the scale of the challenge
- Our people – seeking solutions
- Our living lab – testing and experimenting
- Our short and long term influence on staff, students and the wider community

Discussion Points

- It is important that we can influence internal decisions by bringing in appropriate expertise at the right time, e.g. before investment in a building project is decided. Some sort of climate emergency commission is needed internally to ensure decisions are made on best knowledge, not just cost – we need panels of experts from all parts of the institutions who consider carbon and other impacts of decisions. Academics should get involved with procurement committees.
- Methane is an issue too, but is in the atmosphere for much less time, and we have seen some quick wins here already.
- We need to talk more about how not tackling climate change will affect business. If students start making their education decisions based on climate or sustainability commitments this could challenge the way we do business.
- We need to build up the evidence base around the benefits and costs of academic and executive travel, and travel and the student experience.