![e-Dialogues logo]

Panelists

Professor Ann Dale, Principal Investigator, **Meeting the Climate Change Challenge (MC3)**, Royal Roads University
Alastair Moore, Doctoral Student, **Meeting the Climate Change Challenge (MC3)**, Royal Roads University
Rob Newell, Doctoral Student, **Meeting the Climate Change Challenge (MC3)**, Royal Roads University
Chris Strashok, Researcher, **Meeting the Climate Change Challenge (MC3)**, Royal Roads University
Shoshana Schwebel, Research Designer, **Meeting the Climate Change Challenge (MC3)**
Jaime Clifton, Research Curator, **Meeting the Climate Change Challenge (MC3)**

Ann Dale

Welcome to our next brainstorming session as we share "notes from the field" from **MC3: The Climate Change Imperative: Changing Current Development Paths**. In phase 2 of our research, we have gone back into our climate innovator communities in BC and re-interviewed a smaller group to see what has changed since 2012. Our work and a description of the first phase may be found at http://www.mc-3.ca

In this phase, we are exploring development path change and the nature of transformative change. A development path consists of social systems (formal and informal rules, habits, and norms), networks amongst actors, diverse technologies, and ecological systems. Development paths are imbued with and defined by values, norms, rules, and habits rather than by a measurable set of conditions/characteristics; exhibit a particular set of interlinking regime rules and behaviours, including inertia and cascading effects over time; and are reinforced at multiple levels, with varied capacities and constraints on local agency occurring at each level (Burch et al. 2014).

Could I ask each of you to briefly introduce yourselves and the role you play in the team, although we are a tight team and we tend to collaborate on all the work in its final stages?

Alastair Moore

Hi everyone, great to be here. I am a mid-career doctoral researcher examining everyday renovation/construction practices (their understandings, materialities, sayings, doings), and how these impact housing energy retrofits. I have the real pleasure of working (virtually) with a dynamic, interdisciplinary group of researchers on the Meeting the Climate Change Challenge 2 (MC³ 2.0) project. My contribution to the MC³ 2.0 project focuses largely on developing an indicator framework capable of discerning changes in underlying community development paths. The framework

integrates theories of social practice, the multi-level perspective, and socio-ecological systems thinking in an attempt to reveal the multi-scalar, institutional and subjective dynamics underlying development path trajectories.

Chris Strashok

Hi everyone, my name is Chris Strashok. I have been an associate and colleague of Ann's for almost a decade. My contribution to the MC³ 2.0 project has been to gather data by interviewing a sub-sample of the original 11 case study communities we researched in the first phase of the MC³ project. I am also working with the team on analysing and visualising the data we have collected.

Shoshana Schwebel

Hi everyone,

Today I will be sharing new visualizations from the MC³ interview data, comparing the interviews of both phases (2012 and 2016) on the level of individual local governments. For my role on the team, I am the Research Designer, working to transform our research outcomes into visual and interactive projects. I have a background in Digital Humanities, which applies computational tools and methods such as data analyses towards endeavours in the humanities and social sciences. I am looking forward to today's e-Dialogues!

Rob Newell

Hi, everyone. Rob Newell here. I have been involved with MC³ since its first phase, and have worked on several different projects. In the first phase, I was involved with some of the case studies (T'Sou-ke and Prince George) and did some experimenting with data visualization work. In this second phase, I have worked on projects such as a decomposition analysis of community energy data and also exploring and mapping climate action co-benefits. I'm looking forward to our brainstorming session today.

Jaime Clifton

Hello everyone. This is my first e-dialogue as a panelist. I'm usually only live-tweeting! My role on the MC³ 2.0 team is the Research Curator. I'm currently developing the practice of research curation, which adapts elements of contemporary museum practice to mobilize our academic research online. I have a Master of Museum Studies and Bachelor of Arts, specializing in Art History. I run all our social media sites (Facebook: https://www.facebook.com/CommunityResearchConnections/, Twitter: https://twitter.com/crc_research, Pinterest: https://www.pinterest.com/CRCResearch/ and YouTube: https://www.youtube.com/user/crcresearchRRU), blog, and experiment with sharing our research across our sites.

Ann Dale

And I am privileged to be working with such a great team. Chris, you have just finished interviewing a sub-sample of the original 11 case study communities we researched in the first phase of the MC³ project. Any preliminary analysis you can share with us?

Chris Strashok

Ann, there are a number of things I can share with you.

All of the case study communities are still engaged in climate action using a systems-oriented sustainability mandate (A. Shaw et al, 2014) in one way or another and for the most part either mitigation or adaptation still remains the dominant or primary focus of climate change responses, rather than an integration of the two.

All communities also still credit the provincial government's 2008 Climate Action Charter (CAC) for either legitimizing or incentivizing climate mitigation efforts occurring within their communities and draw on the funding they receive by fulfilling their CARIP reporting requirements to support various adaptation and mitigation projects.

Also, as sustainability and the idea of climate change is becoming more accepted, mainly in the larger urban communities, municipal organizations are exploring various ways in which to deeply integrate sustainable practices and policies within the organization. For example, instead of having a sustainability department on its own, how can every department be responsible for engaging in climate change adaptation and mitigation? There are obviously trade-offs to this organizational structure and it would be interesting to explore the outcomes of these decisions in the future.

Rob Newell

I remember this lack of integration of adaptation and mitigation strategies from the first phase, and considering that this still persists, I wonder if there are more 'appealing' ways for municipalities to approach and think about integration. I'm thinking about the MC^3 2.0 work around co-benefits. Meaning, rather than municipalities integrating just mitigation and adaptation, they can integrate climate action with community health (e.g., walkability), sense of place (e.g., green space), etc. The appeal of this would be that acting on climate change provides benefits around other aspects of community vitality.

Alastair Moore

Totally agree with you Rob! I think that Vancouver's Greenest City action plan: http://vancouver.ca/green-vancouver/greenest-city-action-plan.aspx is a very good example of how these links can be made to build inertia into the plan's goals and actions. Everything becomes linked to everything!

Chris Strashok

I see communities are starting to do this more but it is still not the norm.

Also, as sustainability and the idea of climate change is becoming more accepted, mainly in the in larger urban communities, municipal organizations are exploring various ways in which to deeply integrate sustainable practices and policies within the organization. For example, instead of having a sustainability department on its own how can every department be responsible for engaging in climate change adaptation and mitigation. There are obviously trade-offs to this organizational structure and it would be interesting to explore the outcomes of these decisions in the future.

One of the main areas of focus for a number of municipalities was around the municipality's stock of buildings and the energy and emissions associated with them. These are large contributors to a municipality's emissions and something that they have the ability to influence. Municipalities are looking at ways of both retrofitting existing buildings and working with developers of new buildings.

Collaboration within the municipality and outside with both private and public organizations is as important as ever for responding to the climate change challenge.

Success has built confidence. As the staff members get more experience and success under their belts around various adaptation and mitigation projects, new opportunities are opening up for them that were not there when the idea of a sustainability department was brand new.

Jaime Clifton

We are experimenting with different ways of communicating our research. We have found that data visualizations and mapping can illustrate our research in interactive ways. Check out our "Co-Benefits of Climate Action" map shared on Changing the Conversation. It shows the complementary nature between climate action and other actions that can contribute to sustainable development pathways. It can serve as a guide for a more effective and holistic approach to sustainable development. Check it out here: http://changingtheconversation.ca/capp

Alastair Moore

I really like your map Jaime. Looking at it makes me wonder if there aren't a lot more linkages between the nodes. For instance, if we talk about nutrition and energy poverty we might find the need for a new (albeit fainter) line between energy efficiency and nutrition. The map's beauty is that it really helps to show material system linkages which is what decision makers and lay people often respond well to.

Jaime Clifton

Thanks Alastair, but the credit really goes to Rob. Yes, there are definitely are more linkages. I'm continually updating it with new connections. It's definitely an ongoing process so stay tuned!

Rob Newell

There certainly are a lot more linkages, and the ultimate idea is to have this as a growing piece. This was an initial bit of mapping that allow for some thinking on co-benefits, and ideally, would spark more ideas. What would be interesting (and a thought that I was playing with) would to be create a mechanism where people can submit linkages and nodes. Of course, these submissions would need to be backed with some sort of research rather than being purely suppositions, but it could work. The building map could potentially be quite valuable for understanding how to engage in integrated planning.

These e-Dialogues also make for a good forum for collecting ideas on co-benefits and expanding the map.

Alastair Moore

Cool Rob. Could we make one version of the map open to all, and encourage people to click on the links they 'like' or add photos/commentaries about the nature of the links they see in place? We've seen similar work done on community mapping in support of safety, where residents can take geo-located photos and upload them, with text, to a community which ultimately becomes a living repository of community lived experiences.

Rob Newell

This would be an interesting approach, i.e., allowing people to add their 'stories' to the map. There are certainly some technical challenges to work out with the program we are using now for the map (Kumu), but conceptually, it's a neat idea – inviting people to share an 'experience' of a co-benefit.

Alastair Moore

Exactly—sharing or ground-truthing a lived co-benefit! Sounds like a great 'next project'!

Shoshana Schwebel

Chris, let's javascript this!

Chris Strashok

Ha! You have caught the bug.

Rob Newell

Now, remember to invite me in on this one. I'm going to be done the first draft of my dissertation soon, and would be excited to do some coding!

Shoshana Schwebel

Excellent.

Ann Dale

And we can't wait to have soon to be Dr. Newell back full-time and a soon to be Dr. Moore. How very exciting. Do I have to give both of you more respect now?

Has the change in political leadership had any impact, and if so, in what ways are local governments responding?

Chris Strashok

Yes, there have been some changes in leadership. Some for the good and some for the bad (from the perspective of climate change adaptation and mitigation). Those that have seen a change in leadership that has hampered the municipality's ability to address climate change adaptation and mitigation are still working on sustainability initiatives and climate change mitigation strategies in smaller ways. The staff in these municipalities are learning how to refrain the problem to appeal to those who have the power and to deeply integrate systems-oriented sustainability policies within their organization.

Ann Dale

Are there any new innovations that have leapt out at you?

Ann Dale

Alastair, based on your own doctoral research, do you have anything to add?

Alastair Moore

Ann, I think that even though embedding climate policies well within local government departments, or within plans/policies, can help to keep them in place after political changeovers, there is always a real risk that they can be removed or obscured by new political priorities. Leading communities must constantly reinforce existing policies and sustainability gains if they are to persist beyond a term of office. Local government mission statements and council priorities are critical places from which operational and strategic actions gain inspiration. Leading communities explicitly refer to principles such as climate action and environmental protection in these documents.

Ann Dale

A good example is BC making their carbon tax revenue neutral as well.

Alastair Moore

What constitutes 'normal' language regarding energy consumption and climate change is incredibly important. I know from experience that some Local Government (LG) staff and councils are very careful with how they phrase climate action. There's always a fear that they'll be accused of spending taxpayer's money to 'save the environment' when people are suffering from other problems like unemployment, etc. Institutional entrepreneurs can play a huge role in normalizing ideas and understandings among fellow staff and council members. This is not an easy task, but it is an essential building block exercise to making climate action make as much sense as re-paving a local road.

Ann Dale

I think framing the issue in language that can bridge the polarized debate now emerging and re-emerging is critical to moving forward on climate change mitigation and adaptation. This is about the fourth wave of the old paradigm of jobs versus the environment, pro-development, no development, pro-pipelines and anti-pipelines. For example, bridging framing could be a low

carbon economy or my preference, a carbon neutral economy, and focus on the transition plans that get us from a traditional extractive economy to this new development path? The other thing to remember is that if the goal is sustainability, climate change adaptation and mitigation is a co-benefit, but the reverse is not true, especially when considering spatial justice. And any transition plans must be designed so that no one province, territory or First Nations is left behind?

Rob Newell

This is an important point Alastair, and it is something to be considered when you're dealing with different municipalities of various cultures and interests. Just even how you refer to your sustainability plans can make a difference. Prince George's ICSP was titled 'myPG' rather than something like 'Prince George Sustainability Plan'. The idea was to personalize and communicate to public that this was a plan that took into account local concerns and aims to contribute to local well-being.

Chris Strashok

Definitely Rob. Some of the questions we asked during the interviews was around sense of place. Whenever I asked this question the interviewee would always say it is hard to tell if their work is strengthening sense of place as this is already a strong competent within the community. I think every community is proud of what they are doing and as you said Rob how can we tap into that community pride to make effective change.

Shoshana Schwebel

This is an interesting point, Rob. The most recent data visualizations based on the interviews with LG staff and council map the language being used (will share shortly). Alastair, what types of phrases would you consider 'careful' in regards to climate action? If we pull out specific phrases to look at, we can dig into this point in the data itself.

Alastair Moore

I think staff reports and council resolutions/policies can often be found to include nuanced motivations for energy efficiency. That is, they might say things like retrofitting LG buildings is going to reduce operational costs, increase asset value and contribute to the LG's long-term climate goals. This language tends to 'discount' climate stuff as being something far, far away, rather than near and present like a line in the budget called, 'building operations and maintenance'.

Shoshana Schwebel

Very interesting. I'd like to make a set of terms that are ambiguous and diplomatic in this way and see what patterns emerge in the interview data. We could then directly compare these terms to the unambiguous climate action phrases.

Ann Dale

Key point, Rob, other lessons to be learned from T'Souke First Nations and Eagle Island in terms of community engagement?

Rob Newell

T'Sou-ke First Nations and Eagle Island make for great examples of community engagement. They are both small communities; however, I think there are good lessons to take away from both cases.

With T'Sou-ke, this is one of the only communities I've encountered that has seemed to engage every member. Of course, being a small community helps in this regard; however, I think it's important to recognize that they engaged the community on a regular basis, and this has contributed to the amazing progress they have made in terms of things like their solar energy and local economic development (they have quite an interesting wasabi operation now). Their progress has attracted a lot of attention, and they even have a 'eco-tourism' industry that has developed from people interested in visiting and seeing the innovations.

Now, I think what might be more important is that they are now planning to start the visioning and engagement again to determine 'what's next'. This is key and a lesson that all communities can learn from—you don't just engage, create a plan, and that's that. Sustainable development is continuous and ongoing, and so must be the engagement.

Rob Newell

Eagle Island is an interesting example because it really was from the ground up. Tara Strafford is a resident of Eagle Island (which is part of West Vancouver) and she mobilized the neighbourhood in to exploring housing retrofits. She used an interesting strategy of holding parties to get her neighbours together to discuss doing these upgrades. Tara then worked with the City of West Vancouver to figure out how to go about this. Ultimately, this partnership led to (I believe) 26 of 31 homes getting the retrofits.

The interesting thing about this case was that it was a citizen initiating the work, and this was done through social gatherings. After the Eagle Island success, Tara worked with Cool Northshore to do some retrofit work in neighbourhoods around North Vancouver. This neat 'parties with a purpose' idea was adopted, and Cool Northshore holds these gatherings (they refer to as 'cool drinks') where people can meet, socialize, and also hear an invited speaker on a relevant climate action topic.

Alastair Moore

Another thought that I've had concerns how our leading communities come to form an unofficial 'club'. I suspect that our leading communities need each other, whether they realize it or not. Each pioneering community can be held up as an example for critics, just as BC is used to promote a carbon tax. It's lonely always being in front, leading the pack, so it's important that leaders have some company.

Ann Dale

So, what I am hearing is that framing the question is vitally important to communicate to political leaders, systems orientation which I guess would lead to more integrated decision-making, and embedding and institutionalizing the innovations to continue momentum. Rob, why don't you explain about the decomposition analysis you are working on, and Alastair, maybe you can talk about the indicators work?

Alastair Moore

The indicators try to identify what, if any, part of a LG universe is changing, and what the nature of that change is. The indicators are largely qualitative and attempt to categorize actions taken by LG's as either incremental, transitional or transformative.

Shoshana Schwebel

I'm posting a screen grab of our interactive version of Alastair's indicator framework—our team is in the process of creating an online table to make this document accessible.

Local Government Climate Action Indicator Framework			
Indicators	**Incremental Actions**	**Transitional Actions**	**Transformative Actions**
Agenda Setting and Strategy Strategic Approach	Climate-related initiatives/programs are framed as either efforts to mitigate or adapt to climate change.	Climate-related initiatives/programs are seen to contribute to multiple LG departmental strategies.	Climate-related initiatives/programs are framed as vital parts of a more holistic sustainable community agenda/narrative/strategy.
Agenda Setting and Strategy Champions	Sustainability / Environmental manager, supported by loosely organized community activists	Small, impassioned, but dispersed group of social entrepreneurs within LG, supported by developed local network of external stakeholders	Majority of elected officials and senior staff, supported by research/policy/activist networks operating at multiple levels
Agenda Setting and Strategy Motivational driver	Response to legal requirement or desire for competitiveness or clean environment; vision of ecological modernization	Innovation leading to green jobs, energy independence, and economic diversification and competitiveness	Improved human health and community liveability; improved quality of local environment; reduced adaptation costs
Agenda Setting and Strategy Mandate	Little to no alignment leading to diminished capacity to succeed on meaningful climate action	Active participation in voluntary inter-governmental sectoral (e.g. Water, building codes) committees	LG roles clearly defined within an integrated regulatory framework optimized for climate action
Agenda Setting and Strategy Climate change consideration	Lack of agreement leading to weak / uneven consideration of climate principles by departments wrt operational or investment decisions	Environment-related departments understand risks/opportunities and try their best to include principles in their work	Institution understands climate change risks/opportunities integrates these into all local government decision-making criteria
Agenda Setting and Strategy Mitigation and adaptation	Mitigation primary focus, with adaptation given only cursory attention	Strategies or plans developed for both, but considered as largely separate issues	Synergies and contradictions of mitigation and adaptation understood by institution and reflected in climate action plan.

Alastair Moore

Regular (and ideally frequent) signals in support of a collective understanding of climate action as 'common sense' is important. I note that the 2012 Community Energy and Emissions Inventory (CEEI) Report: http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/community-energy-emissions-inventory was just released, complimenting similar inventories for 2007 and 2010. It's a shame that these emission inventories take as long as they do because they are as pillar-like as the 2008 Climate Action Plan and the carbon tax. They buttress people's and institutions courageous work as they provide something solid to stand on when you're trying to communicate your message to mixed audiences.

Ann Dale

Chris, overall, is it correct to state that all of our original 11 case study communities have moved further along in their climate innovations? And what are they now emphasizing? Alastair, can you provide more detail about the structure of your indicators framework?

Chris Strashok

I would not say that all 11 case study communities have moved further along. A number have struggled due to changes in the political landscape, size, and the completion of a project they had funding for.

Those that have had the luxury of a supportive political and organizational climate have been working on the areas we have been discussing today. Some are experimenting with how sustainability should be structured or integrated within the organization. Others are looking at how they can engage the community by steering away from spooky language like climate change and others are looking at ways of capturing climate change adaptation and mitigation outcomes as co-benefits of other projects in other departments.

Ann Dale

So, leading communities that have political and staff alignment are in a more powerful position?

Chris Strashok

I would say so, yes.

Ann Dale

Hey guys (used inclusively), what about decomposition and my other questions? Chris, can we safely say that our case study communities are still leading in climate innovations? Shoshana, do you have any data visualizations to share, and please explain your methodology.

Chris Strashok

I would safely say that, Ann. These communities are doing some amazing things and with a lot of passion. I would say in general across all of the community's work around sustainability has gotten easier. Is change happening as fast as we need it to, that is up for debate, however I think society has definitely progressed over the past couple of years.

Shoshana Schwebel

I'll share three new visualizations. Using data from both phases of the MC3 interviews (as before), these new data visualizations dig into the individual local governments. The following three larger localities were chosen as illustrative examples: Vancouver, Victoria, and Campbell River.

Please take a look at the attached PDFs here: http://changingtheconversation.ca/node/111

(Referring to the docs) The networks below show the comparative presence of topics in the past interviews (phase one) versus the newer interviews (phase two). Based on the number of times a topic was repeated (relative to overall word count), the connecting line between the topic and the city's past/present node will be shorter or longer. Denser clusters around the past/present node means higher mentions of the nearby topics.

Alastair Moore

The network maps are very interesting. Are we able to draw any conclusions from the network maps? Can we say that the conversations, phrases and narratives are changing in absolute terms? I should make a 'shout-out' to Shoshana who very kindly shared her experiences/knowledge of Gephi with me. Thanks to Shoshana, I've been able to produce some helpful sociograms of my network of intermediaries working on home energy retrofits in Vancouver!

Shoshana Schwebel

Alastair, I'm happy to have been able to help! I would say that the language has changed significantly from 2012-2016, yes. In all three exemplary LG networks (visualizations), we can see tighter clusters around the present blue node than around the past red node. I would say that the language gets more specific over time, zeroing in on topics that are more place-specific and culture-specific (culture here meaning that each LG will have its own set of priorities depending on its unique culture).

Ann Dale

Shoshana, so what are the topics/issues that our case study communities are mainly interested in from this phase of our research?

Shoshana Schwebel

In the present (2016) phase of the research, for the 3 local governments represented in the attached visualizations, the topics that are clustered closely around the larger blue nodes are the most prevalent. For Victoria present, we can see topics like "Agency", "Health", "Programs", "Success", "Federal", "Water+ Air Quality", "Leadership", "Green Energy", "Adaptation", "Monitoring", etc. The closer attraction of these topics to the present node means that they are more prevalent in the recent interviews compared to the past interviews.

For Campbell River present, we see topics such as "Monitoring", "Cultural", "Ecological", "Wildlife", "Partnerships", "Success", and "Nature"—giving us a *very* different lexical landscape to Victoria. We can intuit that success in terms of sustainability hinges a lot on "Wildlife" and "Nature", whereas Victoria emphasizes "Air + Water" quality when the other LGs don't. For Vancouver, we see "Sustainability", "Reporting", "Learning", "Walkability", "Networks", "Agency", and "Connection". Again, very different than the above LGs: terminology is more socially focused, more urban (walkability), and more enterprising. For a quick glance at overall popular topics, see our earlier visualizations at http://changingtheconversation.ca/node/93

Ann Dale

Shoshana, I think the topics of nature/wildlife characterize the importance of place to those

communities?

Alastair Moore

Perhaps I'm being overly optimistic, but the relations/dynamics the network maps illustrate could be fed into the indicator framework as a partial means to assessing where an LG is with respect to the types of issues it's interested in, and hence the type of change that might be afoot.

Shoshana Schwebel

Alastair, I'm trying to visualize how they would be fed in. Perhaps we can sketch out what you have in mind?

Jaime Clifton

I just want to interject here with our online research dissemination methods. We're experimenting with mobilizing our research via social media. We share our research developments—including videos and data visualizations—and weekly blog reflections. We also mobilize relevant news stories and projects that highlight innovations, whether big or small, happening in Canada and around the world.

Check out our Twitter: https://twitter.com/CRC_Research and Facebook: https://www.facebook.com/CommunityResearchConnections/pages.

We've also developed a new Pinterest page: https://www.pinterest.com/CRCResearch/. We're communicating innovations in sustainable community development through beauty and knowledge. From Canadian wildlife and biodiversity to data visualizations and design, we're developing a space to experiment with research curation. We've organized it into 20 curated boards that feature our work and also images pinned from interesting content found across the web.

Jaime Clifton

I also want to quickly introduce Research Curation: https://www.crcresearch.org/research-curation. We're currently developing this method to mobilize our research quickly to broad audiences via dynamic online platforms. Through experimentation and research, we are working to establish an applied method for this new practice. Research curation is a critical step towards knowledge mobilization as it establishes context and offers additional meaning to research. It does so by adopting elements of contemporary curatorial practice, established in museums, into the dissemination process. These elements include interpretation, visual storytelling, and educational communications.

It also considers what connects users to knowledge by establishing multiple points of entry. To this end, research is curated across social media platforms (Pinterest, Twitter, Facebook, and YouTube), is illustrated through data visualizations and videos, and reflected on in blog posts. This curatorial toolkit dynamically shifts between different forms of media while maintaining close connectivity. It also helps mobilize research as it is being produced, thereby shortening the time lag of the take-up of knowledge. Ultimately, our hope is for this new practice to disseminate research further, foster deeper connections to knowledge, while encouraging users to take action on the ground.

Ann Dale

Well, I still haven't heard about the decomposition analysis, and we are nearing the end of our time.

Any concluding remarks you would like to share with our e-audience?

Rob Newell

I got a bit too busy with other threads, but I think I can sneak it a few notes on decomposition. I have been working on a decomposition analysis, which in essence, is a way of breaking down and examining factors that influence changes in the variable over a given period of time. In this case, we are looking at what factors are contributing to greenhouse gas emissions in BC communities and in what areas are we seeing reductions, and we are using the BC Community Energy and Emissions Inventory (CEEI). CEEI provides for an interesting analysis it captures emissions at the community level, so it allows us to see how decomposition analysis can be used to support climate action at the local scale. Many of the decomposition analyses I've encountered have been at larger geographical scales (i.e., national level), so this is a bit of a novel application.

For those interesting, we have a longer description of the project on the website here: http://mc-3.ca/decomposition-analysis. Also, we will be releasing a report on this work sometime in late-February/early-March.

I was actually hoping to be the one to announce the new data release, but Alastair got to it first. The baseline year for CEEI data is 2007 and then 2010 was the next of year of data. The intention around CEEI is to produce data on two year intervals following 2010, which would ultimately allow for a system where new years of data are plugged into the spreadsheets I've created and the analysis is updated.

Thus far, much of this decomposition research has been a methodological exploration using 2007 and 2010 data, and this has involved the design of the decomposition models and selection of factors. However, as mentioned, the 2012 data was very recently released, and this will allow for a next step in the project. After adding this data to the analysis, we can compare the decomposition output with case studies we conducted in the first phase of MC3 to see how the qualitative fits with quantitative. This could be a very interesting way of adding 'meaning' to numerical output.

Alastair Moore

Sorry about being a 'thunder-stealer' Rob:)

I hate to do this, but I've being beckoned and must leave this great conversation. Thanks everyone for a great dialogue! I did however, have one more observation to make before I go. This one is about Vancouver. It's a bit off-topic but it might be of interest.

Vancouver continues to set a pace, perhaps not the only pace, but an important pace nonetheless, where sustainable urban development in BC is concerned. They've recently launched a thermal imaging pilot project in select neighbourhoods in the city. Inspired by international best practice like Edinburgh, Manchester (UK), Massachusetts, and Detroit, and research at the University of Calgary, the city hopes to help homeowners reduce energy consumption and GHG emissions. Homeowners will be given thermal images of their houses to help them identify areas of poor insulation or air leaks.

There are 3 interesting things about this initiative:

• 1, we can see in very real terms the way that city networks, and the leaders they tend to attract, serve to transport ideas and practices across vast distances. By virtue of the multitude of international best practice networks, BC communities need not fear 'going it alone' where climate action is concerned.

• 2, innovations (like building thermal imaging programs) are often made possible by simultaneous (and reinforcing) pulses from multiple scales and by multiple actors, and rarely by actions that come solely from within a regime/system.

• 3, what's great about this initiative is that it provides a very graphic tool to help people connect the dots between energy consumption, their homes, energy bills, and maybe even climate change. I say maybe, because the City tends to not bang on about climate change as a driver for these sorts of initiatives. Instead, it prefers to raise awareness about other more pedestrian benefits like lower energy bills, increased home comfort, etc. (http://www.cbc.ca/news/canada/british-columbia/thermal-imaging-workshops-to-aid-energy-conscious-vancouver-homeowners-1.3928831)

Chris Strashok

Thanks everyone for a great conversation. Looking forward to making some visualizations.

Ann Dale

I would like to thank my team, and the e-audience for their participation. I have enjoyed moderating this conversation more than any others. Une mille fois.

Rob Newell

Thanks, Ann and everyone else. Great conversation, and it's always a pleasure to chat with you folks!

Jaime Clifton

Thank-you everyone for a lively chat!