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Changing the Conversation

MC3 2.0: Data Collection and Analysis

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Panelists

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Ann Dale

Welcome to our brain-storming session on our latest climate change research. Phase 2 of the MC3: Meeting the Climate Change Challenge (<http://www.mc-3.ca>) is exploring the nature of change in current development paths in 11 climate innovator BC local governments from our first phase. Results from the first phase can be found here: <http://mc-3.ca/case-study-library>.

For the purpose of our research, we define a development path as a complex array of technological, economic, social, institutional, cultural, and biophysical characteristics that determines the interactions between human and natural systems, including consumption and production patterns, over time at a particular scale. They result from complex interdependencies among multiple actors, institutions, and markets and are reinforced or opened up by socio-technical regimes.

I am joined by my wonderful research team, co-investigators and co-lead Professor John Robinson, Dr. Sarah Burch and Dr. Alison Shaw, and our team of Alastair Moore,

pursuing doctoral studies at the University of Manchester; Rob Newell, completing his doctoral work at the University of Victoria; Chris Strashok, Research Associate, Jaime Clifton, Research Curator and Shoshana Schwebel, Research Designer.

We will be exploring preliminary results from the first two years of this phase. We have gone in and re-interviewed a sub-sample of people from our earlier interviews. Alastair has led the development of an indicators framework for change, Rob is conducting a decomposition analysis as well as data analysis, and Shoshana has been leading data visualizations. As each of you talk about your results, can you please perhaps give us a short description of your method? And Alison, please chime in with findings from the first phase that you led? And John, of course, on change in general. Sarah, you just completed a workshop on transformative change for governance and we look forward to your insights from that? Chris, you have led this part of the project. What 'nuggets of gold' have you found from the interviews conducted so far?

Ann Dale

Hi everyone. Nice to be e-here with you all. I'm looking forward to the session today

Shoshana Schwebel

Hi everyone. I'm excited to be part of the conversation today. I'm looking forward to sharing research methods.

Sarah Burch

Thanks, Ann! This is Sarah Burch – I'm an Assistant Professor at the University of Waterloo, and I work on the governance of sustainability transitions in cities. I was part of the original MC3 team, and I continue to loop into the ongoing activities whenever possible! Looking forward to the conversation.

Alastair Moore

It's an important question John. From my review of local government (LG) documents, it looks like really innovative LGs are being swept along by the current that they helped create. That is, they're not being allowed to stop leading on climate stuff, as everyone, from near and far, are looking to them for leadership.

Chris Strashok

Thanks Ann.

There are a number of 'nuggets' I have uncovered during the interview process. Some of them may be new to use and I think many seem similar to those who participated in the first phase of this research project.

One of the nuggets I found is many of the municipalities that I interviewed are mainly working on climate change mitigation. The communities on the coasts are focusing on sea level rise and communities in the interior are focusing mainly on fire risk and seasonal flooding. Dawson Creek recently saw the impacts that these extreme weather events can have on their community.

There was also some focus on the climate change adaptation. I found this to be happening mainly in the larger municipalities mainly because they have the capacity to deal with both of these areas with the extra resources. The adaptation work has been mainly focused on existing municipal building stocks and looking ahead at future developments by working on new building standards.

This is also an area of friction between some of the municipalities and the province. The province is looking at standardizing the building codes across the province to make it easier for developers understand what is expected of them. However, some of the municipalities are striving for standards that are better than this base and see this work by the province as a hindrance to achieving their objectives around sustainability and climate change adaptation.

John Robinson

Are there any real surprises? Or any real differences from the first round?

Chris Strashok

Partnerships with private business and community groups are also playing a major role in the work around climate change adaptation and innovation. For example, the City of Nelson is working with the Climate Change Disruptors and big data to understand their environmental impacts – <http://www.climatechangedisruptors.com/>

Alison Shaw

Yes, this is similar to our findings in MC3 phase 1. We had created a sustainability continuum on which communities could be positioned where one end focused on mitigation and/or adaptation independently, the middle emphasized integration (where different departments were responsible for adaptation and mitigation but saw the need to speak to one another) and the other end of the continuum emphasized sustainability (where climate mitigation and adaptation were embedded into sustainability decision making). How do phase 2 results align with this type of mapping

Alastair Moore

One of the interesting things that phase 2 is revealing is that we can start to break our case studies into two camps: those local governments that undertake climate initiatives for the climate's sake; and, those that do so as part of a more holistic sustainability agenda. It's very positive that we are seeing some of the latter, however, it's not universal as Chris points out. We need to link positive outcomes to the broadening out of actions (i.e. from strict mitigation stuff to adaptation and sustainable communities more generally).

Alison Shaw

I think Victoria offers an interesting case here. Sustainability was used to frame their OCP, and it was therefore felt that a Sustainability Department was not required. The suggestion: if sustainability is embedded in decision-making, why do we need to finance an entire department devoted to it. I am curious about how this has played out in the second phase.

Rob Newell

This is a very interesting discussion point that I remember emerging through the first phase of MC3. That is, is it better to have a separate sustainability department or have

it integrated among all departments and operations? The latter sounds quite nice and could work in an 'ideal' world; however, as we found, many communities are in stages where they still need the groups to spearhead and champion the sustainability initiatives. People that will keep the agenda 'on the table', so to speak.

John Robinson

I agree. It may also be a function of scale. In a small organization a sustainability office may be quite prominent and influential. In a large organization, it may get lost and be better integrated into the 'power' divisions of the City government.

Chris Strashok

It seems like there is an evolution here. If sustainability is a no-brainer, then integrating these functions into existing departments make sense but if this is something that needs championing having a separate department may be required for visibility.

Alison Shaw

Exactly! This was the concern at the time. It's one thing to embed sustainability in decision-making, it's another thing to have skilled people ensure that it is articulated and implemented in practice. The concern for Victoria at the time it collapsed its sustainability department, was who provides oversight? Who is charged with looking for co-benefits and areas of intersection and synergy, and ensuring that it gets implemented into practice. In other words, what is the role of the sustainability professional in these situations, if any? Community champions can only play this role to a certain extent.

Rob Newell

Interesting thread here, and I do like your mention, Chris, of 'visibility'. We also found that when a sustainability department is put in place then taken away, this can be quite disheartening to many and send the signal that the municipal government is no longer interested in sustainable development. So, if when transitioning from a separate department to the integrated route, I think there needs to be careful consideration about when to do it (i.e., is the community ready for such a transition?) and how is it communicated to the public?

Sarah Burch

As Alison noted, I think Phase 1 showed this divergence along a continuum as well. I'm curious, though: are the results, and not just rhetoric, produced by the sustainability-oriented (rather than climate-centric) communities more transformative? I'm trying to question my own assumptions that a sustainability pathway is just better... :)

Alastair Moore

I agree Sarah, sustainability is never an objective goal. However, to the extent that some LGs are re-thinking how they do business (plan, regulate, operate, etc.), I think that it's positive to move away from siloed, climate actions (e.g. lighting retrofits) to more pan-organizational initiatives that implicate multiple interests, broader budgets and hence, greater/broader organizational commitment. We still don't know where these initiatives will take the LG, but the deeper institutional thinking is positive I think.

I think that this is where our co-benefits work fits in. For those who haven't seen, we created a co-benefits map that shows how climate action benefits other aspects of communities (<http://changingtheconversation.ca/capp>). Thinking about co-benefits I I

Robert Newell

I think that this is where our co-benefits work fits in. For those who haven't seen, we created a co-benefits map that shows how climate action benefits other aspects of communities (<http://changingtheconversation.ca/capp>). Thinking about co-benefits allows for understanding on how to engage in pan-organizational initiatives, as it illuminates which organizations would be involved in certain approaches. For example, walkability can include folks working in transportation, community safety, parks and health. It becomes a matter of understanding that climate action can be approached from multiple angles, as well as engaging in such action allows for approaching other issues from different angles.

Alastair Moore

Right Rob. Communication about how sustainability gets embedded into decision-making is critical. So too are very clear ways of measuring that sustainability is actually occurring because of it. This is the exciting part of this second phase. How do we measure/evaluate whether LG's are transitioning toward sustainability? Of course, embedding it into pan-organizational decision making is an indicator. But how do we know that it is occurring? What are some other indicators we can look to, to better understand that a community is transitioning toward sustainability?

Robert Newell

There was a rather interesting thread about this in our last e-Dialogue, i.e., how do we know that integrated decision-making is occurring. As you mention here, Alison, the occurrence of integrated decision-making is an indicator; however, in our discussion, we stepped back a bit further and chatted about how to have 'indicators of integrated'. This could get quite complex, as you need to look at whether integration is happening, for example, just between land-use planning and health or if there are three or more items in there. Also, which groups are working together, i.e., just LG, or LG-NGO-academic partnerships? Integration indicators would be a challenging (but interesting) project.

John Robinson

I am still not clear whether the continuum is weighted the same way as last time. In 2012 it was 6/11 of our case studies that adopted a broader sustainability framing. What is the ratio now?

Ann Dale

We don't have the answer to that yet? Stay tuned. Shoshana, do you want to jump in about some data visualizations and results? Alastair, maybe you can talk about the indicators work and incremental, transitional and transformative action classifications?

Chris Strashok

The direction the communities are taking around climate change adaptation and mitigation are also very strongly connected to the views and concerns of the current council. In my interviews a number of communities that were considered leaders in sustainability during the first phase this research we would now consider sliding backwards. Dawson Creek is a prime example this phenomenon where an enlightened council was replaced by a status quo resource extraction focused council. From the people I talked to they are struggling to keep the needle moving forward with the current council.

However, one of the silver linings in this story and a lesson for other communities is that when Dawson Creek's policies were being implemented during the 'age of enlightenment' they were done so in such a way that they were ingrained in the structure of the municipality. An interviewee remarked that the person writing the policy knew the ins and outs of the municipal structure so intimately that it is making it very difficult for the incoming council to ignore these policy requirements.

I found this to be the strongest lever in whether or not a community was engaged in the climate change adaptation and mitigation. If the council does not support the efforts of staff then no matter how enlightened the staff is it is very challenging for them to make change, although not impossible.

Sarah Burch

I would imagine that sustainability is always a moving target — so even if awareness and technical skills grow (leading to the possibility of embedding it throughout an organization), there is always room for people who focus on learning, implementation, stakeholder engagement etc.

Ann Dale

This is also consistent with our first phase results that the provincial legislative and policy framework was crucial to staff being able to convince elected officials about the need to act. And of course, we all know that making the carbon tax revenue neutral was essential to its continuance. So, this embedding aspect is very important? It's a shame that the Charter 2.0 wasn't stronger, but the current administration is very different from the previous one? So we seem to have wide swings on the 'development' continuum?

Sarah Burch

I think this is an interesting question – there's always imminent risk of backsliding or a shift in priorities. So what steps can be taken to embed sustainability throughout an organization's mandate or operations so that progress continues to be made?

Chris Strashok

From this example it appears that one of the ways is to be meticulous about how you write your policies around making sustainable choices when it comes to municipal operations.

John Robinson

I think it is much more than being meticulous. It is about consciously thinking how to make policy that is not easily subject to change (of course that may be what you mean by "meticulous", Chris).

Note the irony: we want our policies to be resistant to change, but not the policies we oppose.

Chris Strashok

Very true John. It is a double-edged-sword.

Sarah Burch

John you're highlighting one of my ever-present questions — do we want to tackle inertia in 'bad' behaviour to create a sustainability pathway that's also resistant to change? Or create a pathway that is less entrenched, nimbler etc.? (an un-path??)

John Robinson

I like the "unpath" idea. How about adaptive path? We need the ability to change in response to changing conditions and priorities. So making a policy irreversible is problematic?

Chris Strashok

In the larger municipalities there was also lots of talk about how sustainability is now more ingrained in the organization and not just a single department that was concerned with the impacts of climate change. I really got a sense from most staff that it was not really a question of whether climate change was happening any more it was more what can we do about it.

John Robinson

This connects, I think, to Elizabeth Shove's great paper on windows of opportunity. It is crucial to look for places where open windows (e.g. the agendas of staff and of Council) are in alignment, and work hard to embed change in such a way that it is hard to reverse. One case in point of such embedding effects at the provincial level was the revenue-neutral nature of the BC carbon tax, which made it very hard to reverse when the political climate changed.

Ann Dale

This is something we didn't think about in the first phase, and the idea that Sarah raised of 'unpath'. Perhaps we have learned not to be so prescriptive, that there is no one right answer, or structure. Is it very place and context dependent as is emerging from this second phase

Alison Shaw

Alastair and Chris: What are some of the policies/instruments communities have used to instantiate climate action within their organizational structures?

Alastair Moore

I really think the CEEPs and the Hydro funded energy managers are key actors in the embedding of climate concerns across multiple departments. Also, requiring OCPs have GHG targets provided a great moment wherein climate leaders within LGs could legitimately engage with their colleagues on issues that previously were conveniently labelled as 'not their area of concern'.

Chris Strashok

Alison, for the smaller communities the province's CARIP program has been instrumental in ensuring that climate change mitigation at least is on the mind of the municipality. They may not have the resources to move on a lot of the things they are measuring, but there is an incentive to measure and this data can be useful if and when they have the impetus to move on these projects.

Sarah Burch

This makes sense to me — in the same way that, 50 years from now, we don't want to have a tiny subset of buildings we call 'green' (we just want all buildings to be fundamentally sustainable...or regenerative, in John's language), we also might want sustainability to be so at the core of municipal operations that it's invisible.

Chris Strashok

Some communities have also recently re-organised themselves so that sustainability and climate change adaptation and mitigation are central to areas such as planning and engineering. They are no longer a department unto themselves which has some pros and cons. In these cases, it appears that they are looking at removing those silo walls by deconstructing the departments.

John Robinson

So a spectrum: small organization and/or early days: separate sustainability department <--> large organization and/or farther down the path: integrate sustainability into functional departments <- -> end-game: sustainability so integrated into highest level planning and decision-making that it is omni-present and less explicitly visible?

Alastair Moore

This is likely the ideal situation, however, I think the process of enculturating a local government with a sustainability ethic that can persist through electoral cycles and staffing changes requires considerable efforts/resources in the early stages. I think LGs will continue to need a sustainability director to guide and nudge at least.

Sarah Burch

What you're pointing out here, Alastair, is that movement along the continuum isn't inevitable. Specific steps need to be taken to move toward this 'end game.' I would hesitate also to think of this 'end game' as a static place – and even then, continued progress and adaptation to new information isn't a done deal unless champions

continue to push.

John Robinson

Alastair, I am not sure what you are saying. I proposed a spectrum. Are you saying you think that local governments will need a sustainability director at all stages of the spectrum, or that the spectrum does not work (quite possible, I think), or that it will take quite a while for most organizations to move down the spectrum?

Alastair Moore

I'm suggesting that a director will likely be needed for the entire journey along the spectrum, to maintain consensus among decision-makers and stakeholders at the very least.

John Robinson

See my democracy example in another thread. I think we may just be at early stages with regard to sustainability.

Alastair Moore

Totally agree. The challenge is to construct a narrative around sustainability that is nearly as strong as the understandings we have for the value of 'democracy'.

Alison Shaw

I know that Victoria was one of these cases. How is this playing out in practice?

Alastair Moore

I know they've just committed to a renewable energy target of 2050.

Chris Strashok

I think it is still working quite well.

One thing they are looking at right now is the possibility of hiring more support in the sustainable community and planning department so they really are the keepers of the development policy and process. This arrangement would influence how a new developer comes into the city and how they're incentivized or rewarded to improve their sustainable performance or their infrastructure.

They are also looking at the building energy management position, and how to best staff the sort of building energy manager for both corporate buildings, as well as helping with building management for buildings that are already across the municipality.

There are also some studies that are going on right now that could result in some HR changes. These changes would build out a few more resources within area of management and resource sustainability and climate change.

Alison Shaw

Oh. This is interesting. They have a sustainable community and planning department. How this differs from the previous Sustainability Department would be an interesting area to investigate.

Ann Dale

That is quite an interesting integration, sustainable community and planning, makes eminent sense doesn't it, the same as Ottawa has integrated its sustainability office and risk management

Alison and Sarah, can you provide examples from the first phase about how 'sustainability offices operated that were more sustainable than others. John, I think you have some observations on this as well?

John Robinson

I am getting a bit lost in all the intersecting discussions. And frustrated by the "only 3 quotes" rule. Having vented, I will now dive back in.

Ann Dale

Try moderating, it is a brainstorming session. :)

Shoshana Schwebel

Hi everyone. I will add a new thread about ways that we are computing the data from the interviews

We've been trying out several different ways of representing the interview data of both phases of the MC3 research. First, to give important context for the visualizations: all of our visual analysis so far is based around 80 codes or 'topics' that emerged from the interviews. Codes/Topics include key terms like 'Sustainability', 'Green Energy', and 'Sense of Community'. Working with these codes and the body of interview transcripts, I've been applying the methodology of text mining ([written about further here](#)). This means digging through the large body of text with certain pre-analysis questions in mind, such as comparing the vocabulary across time, or across the local governments, or looking into the most frequently discussed topics of each phase and (as a second step) seeing how they align with our indicator framework. With these questions in mind, we use computational tools to count and concatenate the text so that we can build visualizations from the data.

We have released three initial visualizations.

1. This shows the top topics in each phase of the interviews. The goal of this is 2-fold. 1) compare the two phases, and 2) reveal the topics that are most frequently recurring across all interviews.

Click here to interact: <http://changingtheconversation.ca/emerging-mc3-data>

2. A follow-up of sorts to the Top Topics, this shows 'Topic Richness', and is also intended primarily as a comparison between the two phases. The topics from each phase were filtered with the same minimum of 0.5% out of the total word count (of interviews from that phase). We can see that the 2016 interviews discussed a much more diverse range of topics.

Click here to interact: <http://changingtheconversation.ca/node/93>

3. This third visualization goes deeper into the vocabulary of the interviews. We chose three major topics — sustainability, adaptation, and mitigation — and tested which topics appeared most frequently in the same context (in the same ten words).

Click here for the full image: <http://www.changingtheconversation.ca/node/99>

John Robinson

So what do these visualizations tell us?

Shoshana Schwebel

I find the second visualization gives a helpful bird's-eye view of how the discourse is changing across time. In the last four years, the local communities are talking about climate change and sustainability in much more detail, and this richer conversation likely translates to more integrated actions and less hollow rhetoric.

Rob Newell

I really like these visualizations for getting the thoughts flowing and sparking questions for further more in-depth analysis. I'm looking at the third visualization, and I find it interesting that there was more convergence (or connections) with 'adaptation' to 'sustainability' than with 'mitigation' to 'sustainability'. Off the top of my head, I wonder if this is due to adaptation linked with thoughts around sustainability; that is, it is difficult to think about how to adapt to climate change without thinking about community sustainability. Mitigation, in contrast, I suppose could be discussed more in terms of commitments to addressing climate change (i.e., Climate Action Charter commitments, global responsibility), or also (and probably more likely) in terms of economic co-benefits, i.e., energy savings. It would be interesting to dig through the data to explore deeper.

Shoshana Schwebel

Thanks for pointing that out Rob. I would like to see how much of that outcome is a result of our specific wording on the query. Maybe 'Mitigation' is a narrower search term, and we can add more synonyms to its query properties (on the software) and in turn perhaps 'adaptation' has a broader usage in everyday language. I can also, as a follow up, look into the topics connected to 'mitigation' that turned up fewer than ten connections.

Ann Dale

Thanks, Shoshana, for the data visualization. Alastair, do you want to bring up the indicators framework? And Rob, the decomposition analysis? And then, could John and Sarah share any insights from the workshop that Sarah just led at the University of Waterloo on transformative governance?

Alastair Moore

The Indicator Framework we've been working on includes a total of 34 indicators broken down into 6 categories.

1. agenda setting/strategies (e.g. strategic approach, champions, etc.)
2. policy/plan formulation (multi-stakeholder engagement, integrated planning, etc.)
3. implementation (partnership actions, experimentation/innovation, etc.)
4. monitoring/evaluation/feedback (e.g. outcome measurement, performance measurement, etc.)
5. dissemination of results (e.g. information sharing, policy/research sharing networks)
6. GHG emission reductions (e.g. GHG target, absolute GHG reductions over time, etc.)

The indicators build on several literatures related to urban climate governance and transitions, social practices, and socio-ecological systems thinking, and also reflect what we've learned during interviews with staff, and reviews of local government annual reports, plans, strategies, and web content. Actions taken by the local government with respect to a particular indicator are assessed as either "incremental", "transitional", or "transformative", depending on the type of change they represent and whether or not they're aimed at the level of the local development path.

The framework aims to assess where on the change continuum a local government is at with respect to moving toward a low-carbon development path. In more explicit terms, how local government policy, planning processes, operational practices, and GHG emissions are changing over time.

Linking indicators to decomposition analyses of GHG inventories will help identify local emissions drivers, just as linking historical indicator assessments with a concrete outcome (e.g. GHG emission reductions) can help us better understand the relations between the two. Ultimately, we'd like to link our indicators to more data sets (e.g. employment, housing density, homelessness, etc.) so that we can develop a more comprehensive picture of community sustainability.

Sarah Burch

Interesting! I won't derail the conversation now by cracking open the incremental vs transformative distinction (a conversation we had at our workshop last week) — but it would be good to chat about this later!

I'd like to hear more about how these indicators sets relate to each other... it would seem that some of them capture simply more or less sustainable (i.e. lower GHGs vs higher) while others are not so simple (experimentation works in some places while partnerships are particularly crucial in others).

Alastair Moore

The indicator set needs still to be filtered to clarify which ones are critical/common to all LGs and which ones aren't. As you say, some don't/won't apply to all. We anticipate using the indicators on an aggregate basis to capture broad institutional trends rather than measuring really specific metrics. Breaking away from more traditional quantitative indicators was one of our aims.

John Robinson

Any preliminary conclusions about "where on the change continuum a local government is at with respect to moving toward a low-carbon development path"?

Chris Strashok

I can't speak for the whole group but my feeling is that we are still looking at incremental change and this is because council has much of the power to make things happen. With council changing every 4 years (or at least there is the perception that council could change) our electoral cycle makes it very hard to look at changes beyond incremental. Not impossible but very difficult.

Alastair do you have anything to add to this?

John Robinson

I am not sure that four-year election cycles have anything much to do with whether the policy is long-term or short-term. If there is a political demand on the part of the public for long-term planning, then the short-term interests of politicians will be to develop long-term plans. If not, not. This is independent of the election cycle duration.

Ann Dale

Off the top of my head, T'Souke First Nations is pretty damn close, city of Victoria and their recent announcement of 100% renewable energy by 2050. Chris and Alastair, any others without finalizing the data yet? Vancouver's commitments are also good, their recent commitment to waste, however, always gaps between plans and actual implementation on the ground.

Alastair Moore

It's only preliminary as Ann said earlier, but it appears to me that Vancouver is moving confidently along the continuum, somewhere beyond 'transitional', and Victoria and Surrey are appearing to be rushing to catch up to Vancouver. That said, as Chris pointed out earlier, although policies/plans are effective at anchoring values/norms in an LG, a change in council still can halt/alter movement along the continuum.

Shoshana Schwebel

If we combine Alastair's Indicator Framework with data visualization, we should be able to make a nice concise graphic showing where each local government is along the continuum.

Alison Shaw

I have hit my limit of 3 threads with many of the discussions. So I apologize for seemly cryptic message.

So is it correct to say that this indicator framework is broken down into the three classifications—BAU, incremental and transformative change? I'd be interested in seeing which indicators go where in order to better understand how Vancouver and

T'Sou-ke are leading in terms of transformational development.

Ann Dale

Alison, there are three categories—incremental actions, transitional actions and transformative actions with a description of what each one means, just for clarification. And thanks for John Robinson for the suggested change from change to action.

Alison Shaw

Yes. Thank you for the clarification.

John Robinson

There is no BAU! The categories re incremental, transitional and transformative. Which is business as usual?

Rob Newell

This is true. We're approaching this from the standpoint that communities aren't static and that small incremental changes are common. Thus, incremental is a business as usual. This certainly is debatable point, but it does capture that fact that small improvements in things like energy efficiency are happening in places that wouldn't necessarily be consider 'climate leaders'.

John Robinson

I would like to make a plea that we avoid the term "business as usual". I don't think there is any such thing, and also that it is deeply misleading to most audiences. It reinforces deeply problematical views about how change happens, and what can and should be done about it.

Alastair Moore

Speaks to are assessed (measured) as being either, 'incremental action', 'transitional action' or 'transformative action'. All 34 indicators (for the moment) are assumed to be relevant to all of our case study local governments.

Rob Newell

I feel like I should now talk about the decomposition analysis here before we get to the end of the discussion.

As Ann mentioned at the beginning of the conversation, I've been working on a decomposition analysis, and so far, this has been quite exploration in methodology. I have been looking at ways of applying decomposition analysis to BC data to illuminate what factors are contributing to greenhouse gas emissions and where we are seeing emissions reductions. We have a description of this project up on the website now (<http://mc-3.ca/decomposition-analysis>), but to give you a brief overview, decomposition analysis can be used to breakdown and examine factors that influence changes in emissions over a given period of time. For example, if looking at transportation, we can use the analysis to examine whether GHG is increasing or decreasing due change in types of cars people drive, the amount people are driving,

fuel economy of cars, etc.

The analysis is being applied to the BC Community Energy and Emissions Inventory (CEEI). This is quite a rich source of data that captures emissions for different sectors at the community level. The intention of CEEI is to produce data in two-year intervals; it starts with 2007 as a baseline, then 2010, but the plan is for two-year intervals following that. For those interested in how CEEI data is collected, you can check out the Ministry of Environment report on collection methods.

For our brainstorming session today, what I was hoping to discuss was ways of adding 'meaning' to the output. This a highly quantitative analysis, but as Alastair noted, we're looking at ways of linking this with the qualitative data collected through the case study and indicators research. I'm quite interested to see how that turns out.

Shoshana Schwebel

Rob, do you have a separate chart of the quantitative data for each LG? If the communities in the CEEI overlap with the communities we interviewed, we could work to cross-reference this data with the information from the interviews. I think we are ending, but Rob maybe we could pick this up in the future.

Rob Newell

The analysis looks more at regions such as Greater Vancouver Regional District, Capital Regional District, etc. This is to be able to examine municipalities that are quite interlinked in terms of emissions, i.e., one can live in a particular municipality but work in a nearby municipality. But, to answer your question there is output for each of these regions and we certainly can look at ways of comparing this with community interview data. I did a bit of experimental work on this already but would like to do more on this in the future, so do keep it in mind!

Sarah Burch

Since we're nearing the end of our time, I wanted to highlight a couple of themes that emerged from our "Transformative Sustainability Governance' workshop last week. John, feel free to chime in as well.

The workshop tried to explore what transformative change towards more sustainable development pathways might mean, and how we can better govern these transitions.

We had some very cool conversations about the nature of transformations — are they just the accumulation of lots of little incremental actions, or something different entirely? We talked a lot about transformations being radical, non-linear shifts that challenge the status quo (i.e. the logic of the economy, the structure of cities, relationships between the poor and the rich etc.) in a fundamental way.

We seemed to conclude that not all incremental actions are equal — some incremental actions might have more transformative potential than others. In the end I think governing sustainability transitions isn't necessarily about specific actions that might work everywhere, but rather is an approach or mode of governance that is adaptable, inclusive, multi-scale etc.

Alastair Moore

Interesting/compelling ideas Sarah. Thanks for sharing. I think your conversations intersect nicely with what we're doing with MC3 2.0; we're using various qualitative methods to give voice to all sorts of actions/initiatives/memes that together, determine development path trajectories. We just don't know what little things can do in terms of altering the big picture. Thank you all for your feedback and insightful questions. It's been fun.

John Robinson

I was only there for the first day, and no doubt overly influenced by the arguments I agreed with, but I thought there was a fairly strong sense that transformational change is inevitable and the best we can do, perhaps, is to surf the waves of such change and try to steer things more in the direction of sustainable outcomes, i.e. along more sustainable development pathways (rather than create or force transformation).

Ann Dale

Well, as John said, the very differing threads were hard to follow, but this was an experiment in brainstorming and getting our research ideas out sooner rather than later. It was difficult to moderate as well, but I wonder how it differs and in what ways from a F2F brainstorming at the beginning when everyone is getting to know one another. Nevertheless, thank you team, it is one of the best teams I have had the privilege of working with. Any last comments before we close.

Sarah Burch

Thanks everyone! Fascinating conversation, as usual! I look forward to our next interaction.

Alison Shaw

Thank you every one! Very interesting stuff. Looking forward to participating in the unfolding. I will take you up on the plea John. I've been reintroduced to this term BAU in the private and public sectors — as it's still used quite widely. I think because it illustrates the institutional dimensions of practice but as you say it doesn't account for other forms of change (e.g. champions, etc.).

John Robinson

Got to go. Thanks, everyone.

Rob Newell

Thanks everyone for the conversation!

Shoshana Schwebel

It's been great to hear all of the work that's being done. Thanks everyone!