Draft Mandate of the Micro, Mezzo, Macro Research Cluster (MMM)
BALTA Partnership Development Project
Scaling Innovation for Sustainability (SIS)

The following discussion is built on a number of working hypotheses. First, we suggest that reweaving our economies at the local level is crucial to increasing resilience and addressing climate change and energy uncertainties. And, we propose to explore the strategic importance of the social economy or third sector in advancing sustainability through locally-regionally defined and controlled initiatives. Social economy organizations are those whose members are animated by *the principle of reciprocity* for the pursuit of mutual economic, social or environmental goals, *often through the social control of capital.*

The local is imagined as dynamic, multi-level and networked (at once local, regional, and global). It is a geographic place with natural and social assets. It is also here where the social dimensions of our dependence on carbon can be analyzed in detail. And, it is here where pathways for scaling up socio-ecological resilience can be developed. Our scaling efforts must however work within ecological limits. And, we need indicators that measure both ecological and social improvement (Leach et. al., 2012).

Second, we recognize that local social innovation occurs in a dynamic context. That context includes growing urbanization and regional inter-connection. And, it involves global forces that operate at macro levels and large geographic scales, yet reach into local places. Multi-level analysis of barriers and enabling frameworks is required.   This discussion paper introduces a number of arguments on multiple level perspectives (MLP).

And third, we propose that the MMM group focus a good part of our attention on the mezzo or regime level. It is a dynamic dimension where a range of multi-level forces intersect, where pragmatic intermediaries try to alter unsustainable social practices and infrastructures. And, where actors struggle to link the ethics of sustainability with social justice, and establish conditions for scaling up and scaling out low carbon social innovation.

In the discussion that follows, we admit to a certain amount of mixing of sociological scale and geographic scale. A 'niche' innovation, while it occurs in a "place" is not necessarily local. It may be constituted and intertwined with people and social forces and flows from other places. This will complicate what we mean by scaling out and scaling up.

And, we acknowledge that there is a tension here between "imposing a framework on what we are analysing, and generating a framework from the phenomena." With any luck both of these will be useful tensions that we recognize and cultivate.

We hope this preliminary piece provokes your thinking, and look forward to our talks.

Scaling out and up Sustainability

Much transition research explores how to scale out and scale up sustainability insights, best practices, strategies and structures. In BALTA, we have discussed a number of approaches and sieved through various relevant theories (resilience, networks, commons, scenario modelling, new urbanism, green social economy, transition, urban sustainability and more) as well as many practice based social economy cases. Like others writing in the transition literature, we hope that as researchers we might derive a set of insights, theory, and praxis for how to effectively and quickly extend sustainability innovations.

Our proposed research is complicated however, by the reality that success in scaling innovation often requires changing the very social and technical systems which are currently seen as causing unsustainability. Therefore, the spread in innovation implies profound changes in social systems, practices, beliefs, and actions. Success is further complicated by our hypothesis that to become more resilient and adaptive, we need to reweave our economies on a more local and regional basis as a response to macro trends, particularly in energy and climate.

In the PDG application we proposed exploring consistencies and inconsistencies across a range of practice based cases (with a focus on food, housing, energy, and finance) [1] in order to identify the elements that make up successful scaling up and out. We suggested **multiple level analysis** (what we called micro-mezzo–macro) to investigate the key factors that enable or block scaling up at each level. We assumed the need for multiple analytical passes over an array of cases and findings to develop both robust definitions and clear understandings of the elements that make up effective scaling up and out.

Over the next year, we propose to question this preliminary framework, re-engage the literatures on multi-level perspectives, scale and transition, sustainability and social economy, and refine our research framework. That framework will include short and long-term agendas and strategies for analysis and evaluation. As well we will need to develop cohesion as a research cluster. Elaborating a plan based on our preliminary thinking in the PDG application, should help us identify major research issues, while eliminating others, and point out new research questions, methods, and new directions for the future 5 year research program.

Why Multiple Level Analysis?

In the PDG application our research assumptions were straight forward. We identified a number of existing low carbon social economy innovations, mostly at the micro level (organization, neighbourhood, community) that have shown real results when it comes to increasing sustainability. Some have already been subject to selected scaling to the sector, city and regional levels. We proposed to take a **multiple level analysis** (what we called micro-mezzo–macro) to investigate the key factors that appear to enable or block scaling up at each level.

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[1] Balta researchers have also worked on various aspects of urban sustainability, as well as land trusts and property rights systems and localizing/ democratizing ownership.

Much social and socio-technical innovation is incubated and proven up at the local level of community organizations. Whether one thinks of a community land trust, a community finance institution, a community banking partnership, a credit union, a bicycle or housing co-op, a local energy initiative, or local food, all can be traced back to innovation in a particular social context or place from which they spread. **Scaling out, then, is a way of taking an innovation that has proven itself in one place and introducing it to another place, or creating conditions in those other settings such that the essence of the innovation can be retained, and adaptation to the new context can be accomplished.**

Role of Intermediaries

Most analyses of scaling local innovation also point to intermediaries or agents who are capable of codifying knowledge, educating others about the innovation, and helping them to replicate the process by mobilizing resources – financial, research, policy, technical and more – to create a systematic and supportive environment for change. The people involved in scaling up processes can be found usually at the mezzo dimension, where they have capacity to scan the broader environment (micro, mezzo and macro) to determine the thwarting or spread of scale. One basic thesis is that the collective capacity and intelligence of intermediaries, working with local innovators, helps identify strategic targets for system change, and mobilizes the resources to achieve breakthroughs that enable the spread or scaling of innovation.   Another working hypothesis we propose to explore is whether this intermediary level (the mezzo) might be key to the kind of low carbon scaling up of social innovation that we are seeking.

Other Multiple Level Approaches

Considerable other research into innovation, notably socio-technical systems, transition management studies and social innovation theory, also explores multiple level perspectives on scaling up (Smith, Voss, Grin, 2010; Naess and Vogel, 2012). There are similarities and differences in these approaches that we can learn from, in particular how they conceive of the dynamics of the levels.

Most often, these approaches use the analytical concepts of niche (innovation or initiative at local level), regime (socio-technical regime or complex of practices, conventions, laws, and institutions in which the local activity exists) and landscape (overarching societal and macro-economic forces). The niche, regime, landscape typology used in social technical systems and transition management theory, often emphasize the local level where the innovation is initiated and somewhat protected from the mainstream systems of society. Raven et. al. also note that in the MLP model each level changes at its own pace (years/niche, decades/regime, long duree/landscape). Innovation unfolds fairly slowly as higher levels constrain innovation. But sometimes, transitions can occur quickly when the three levels align in particular ways (conjuncture).

Smith (2007) in his study of green niches, notes that most innovation occurs as a response to or in opposition to the shortcomings of mainstream ways of doing things. Eco-housing practices or organic food farming, for example, began in opposition to fixed ways of the conventional housing and food industries. For Smith, green niche initiatives draw their identity and energy from opposition to elements of the regime. The mezzo or regime level comprises multiple long

standing path dependent inertias that change very slowly, and frustrate or act as an obstacle or brake upon growth of the initiative **until some contradictions or tensions in the system allow change to occur.**

Researchers who draw attention to the mezzo level describe there a complex of institutional and systematized practices, rules, laws, codes, conventions and actors that shape and constrain innovation (Naess and Vogel, 2012: 39). Shove et. al. (2012) study how socio-political and socio-technical infrastructures reproduce many unsustainable practices taken up by individuals. The analytical focus of their research is "systems of provision" like technologies, building and engineering conventions, urban planning assumptions, professional codes or government policies and more, that "play a crucial role in establishing, stabilizing and transforming practices" in energy consumption, water use, transportation, or food provision - most often in unsustainable ways. Shove (2010: 203) shifts our analytical attention away from the individual consumption habits as explanation of unsustainable behavior, and focuses instead on unsustainability embedded in social practices as complex bundles of meaning, technology, knowledge, and accepted ways of providing key social provisions like energy, water, transportation, housing and food.

Research into scaling up or spreading local sustainability innovations focuses on how we might go about changing these social practices and conventions and structures at the regime or mezzo domain. Smith (p.9) suggests a role for key actors as translators and systems builders who work **to change the fixed practices at the regime level, and embed new institutional supports for the niche initiatives.** These actors, who he calls pragmatic systems builders, may differ from the original innovators (the purists) in that they often strike compromises to spread the idea, sacrificing some elements to achieve scale. He depicts a back and forth process of negotiation across all three scales (MMM), such that not all elements of an innovation find their way into the future (as policy or practice). Another way of seeing this is to trace how intermediaries retain the essence of the innovation, while recognizing adaptation to context (See discussion below on 'application of innovation' for another variation).

Some Cautions
Recently Naess and Vogel (2012) offer some cautions. They remind us that most research into scaling has focused on a single technological or social innovation, whereas the transition to sustainability, especially given trends in urbanization, will require multiple, overlapping, interconnected changes in a number of sectors and levels to occur at the same time in order to spread new innovations and practices city or region-wide. As they note: "the complexity of cities implies that an assessment of whether or not a transition toward sustainability is taking place must be based on a range of indicators rather than just recording whether one kind of technological system is being replaced with a new system." (2012: 42).

They offer a second caution that **much multi-level analysis of why some innovations succeed while others fail, assumes a growth model. This puts in some question the applicability of many MLP research findings, especially if the definition of "success" is in tension with Balta's assumptions that scaling for sustainability requires a low carbon, low growth, and socially just transition.** They write:

There is an element of technology optimism inherent in the traditional MLP conception of innovative, 'green' technological solutions developing in niches from where they can by and large challenge and replace the existing sociotechnical regime. Much of the literature on MLP and sustainability transitions seems to be permeated by a tacit assumption of continual economic growth. Although this assumption is often not made explicit, the focus on niche innovations has clear connections to the discourse of ecological modernization, according to which innovation can stretch and redefine ecological limits and the production can be redirected towards environmental goals in order to decouple economic growth from environmental degradation (Naess and Vogel., 2010:44).

They pose the question quite differently:

But what if the problem is not primarily to add something new, but to change the composition as well as to shrink the overall volume of the urban built environment? (2010:44)

Naess and Vogel suggest that a no-growth agenda will "necessitate a shift in emphasis from niche innovation to current growth dynamics operating on a landscape level …. and the need for national – scale regulation." They are concerned that "in a shrinking total economy, there is a risk that low-income people will be locked in continual and even worsened poverty." (2012:44-45). Their critique reintroduces **the macro or national government level** (a structural emphasis we find in Westley and Antadze on social innovation and Victor and Jackson in their macroeconomic work)**.** Naess and Vogel reason that to scale up innovative solutions, we will need *political niche actors* who will be attentive to these environmental and justice challenges and build relationships between **all three levels**. Westley and Antadze, emphasize the role of government in creating structural demand for innovations by providing, for example, funding and grant programs. Still others, like Chris Turner, show how government led feed-in tariffs encouraged local energy production in various European contexts, and how such macro-level government initiatives facilitate local innovation from below (Turner 2011).

Westley and Antadze (2010: 13) also note the open-endedness of the spread and uptake of social innovation: "A good idea, the resources to develop it, leadership capacity, and drive – all must be combined with *opportunity,* which can be recognized and seized but not directly controlled." As they suggest, we are talking about multiple changes across multiple levels, each cycling at its own rhythm:

Social innovation is a complex process of introducing new products, processes or programs that profoundly change the basic routines, resource and authority flows, or beliefs of the social system in which the innovation occurs. Such successful social innovations have durability and broad impacts. (p. 2)

A few other cautions about the spread of innovation can be found in Raven, Schot and Berhout, who argue that first generation MLP analysts "often implicitly conflated [each level] with

specific territorial boundaries and much of this work as equating levels with geographic spaces (regime/national, landscape/international, niche/sub national)." They argue instead that second generation MLP thinking must move in two new directions. First, to recognize specific place based advantages (land, resources, labour, etc.) and how they impact the scaling of innovation. For them, not all local places will have the same or similar elements needed for scaling up outcomes. Spatial heterogeneity will alter opportunities for scaling. Researchers have to weigh how space and place relate, examine endogenous factors of a region, historical conjunctures or moments, and the relationship of absolute and relative scales. In an important side argument, they also draw our attention to specific place based 'applications' of an innovation. So an innovation, for example, the development of a local biogas industry, may differ in its spread and implications depending on its application (biogas for local electrification for the needy versus biogas for commercial businesses). Known as 'niche branching' this place specific application of a social innovation (and its ethical or social justice purposes) has implications for our research into scaling and sustainability.

Second, they suggest seeing the three levels (MMM) as relational scales. They propose "reframing the levels … as social constructs constituted by organizational and actor relationships that are multi-level." (p. 71). The origins of many local innovations then can be seen as having relational connections to people and resources in other places. Theorizing how these networks interrelate with levels becomes essential to scaling out.

Network analysis also takes this two-way focus on linkages as well as bi-directional flows of knowledge and power across levels (69). Westley and Antadze (13) describe how intermediaries or institutional entrepreneurs, who *operate up and down* the levels in a complex *actor net,* work to change structures and practices , *to connect* innovations to opportunities (caused by political, cultural, or economic demands), and cause *institutional disruptions,* which may create tipping points that result in cascading, rapid, broad-based change. (14-15).

Bonno Pel (2012) offers a tactical perspective on incremental improvements as distinct from innovation focused on transformative systems change:

> Current and future sustainability challenges are increasingly acknowledged to be of a persistent and systemic nature. This gives rise to calls for likewise systemic solution strategies: Transformative system innovations instead of incremental system improvements, and societal transitions rather than procrastination on current locked-in trajectories. On these accounts, incremental change will not do. Still it proves difficult to achieve truly radical transformations. Insights from innovation theory, governance, sociology and critical theory help understand why radical transformation is unlikely to occur: Novelty, if it is to spread at all, should be acceptable to potential 'adopters', and should not be overly disruptive to existing practices. Initiatives should be radical enough to constitute transformative potential, but also shallow enough to be acceptable in current institutional constellations: This contradiction between transformation and non-disruption, the 'paradox of acceptable novelty', can be considered a key system innovation challenge.

He suggests introducing 'acceptable novelty social innovations' that appear to those in power as incremental but, like Trojan horses, have transformative change potential. Finally, others seek transition not in innovation or the new, but rather, as Graham and Thrift (2007) suggest, by examining different ways of addressing *current processes of repair and maintenance* that "continuously surrounds infrastructural connection, movement, and flow.) Their approach may nevertheless offer unique entry points to transformative change.

Conclusion

There is much here to digest and discuss. Regardless of how we strategize transition and scaling up social economy initiatives in sustainability, Leach et.al. draw attention to what we should be looking for when scaling innovation (what they call the 3 Ds): 1) direction (recognition of planetary and local ecological limits and how the innovation works to reduce impacts), 2) diversity (recognize importance of complexity to increasing resilience and how innovation adds to complexity), and 3) distribution (explicit discussion of who benefits and loses in social innovation and commitment to equity).

My purpose with this review was to complicate our original intent in the PDG. The authors (and others we have not yet discussed) reveal considerable complexity lurking in the multiple-level perspective. As we move forward, I hope their work helps further our discussion of how to create our research framework.

Relevant Research Objectives (Tentative Draft for Discussion and Development)

Our job is to design one research component of a long term, integrated research program. What are the key research questions that we need to focus on? What innovations are most strategic to focus on? Are there innovations that have inherently greater potential than others for local/regional application? What might be the key enabling or constraining policies that should be given deeper research attention? Is there particular level that if addressed could have positive cascading or tipping point impacts on scaling innovations for sustainability? And how does all this relate to the social economy sector?

Below, I set out some working objectives for our discussion.

> **Objective 1 –** To engage MMM members in an analysis of existing theory, practices and research findings – by BALTA and other researchers –in order **to design a multi-level perspective** research framework that effectively identifies key features (organizational forms, structures, practices, intermediaries, networks, and policy) that could be used to accelerate and increase the geographic and social range of social innovation for sustainability in four key areas of social economy / sustainability convergence (food, housing, energy, finance).

> We are proposing to explore the <u>conditions under which it is possible to replicate and </u>scale out the good ideas/practices happening in one geographic location or sector of the social economy and to extend their impact to other locations, contexts or sectors. What

happens when we add new intermediaries, communities of knowledge, government or private partners? As niche initiators lose control of their ideas and pragmatic systems builders take over, is the original solution compromised to achieve scale? What tensions or contradictions arise when we scale up a niche initiative from a local organization or neighbourhood into a municipal or regional level project? Does increasing distance from original place of an innovation (where trust and communication is high etc.) make it harder to achieve larger scale collaboration?   What happens to the innovations as we essentially create new meta-networks to diffuse or extend them to region, province or nation? Do only some elements find their way to higher scales? Is that okay? Are there *unintended consequences* or negative impacts caused by the scaling process that feedback in ways that constrain innovation?

   Objective 2 – To review research findings that examine scaling up and scaling out social innovation for sustainability in our four key sectors in a low growth context. We need to develop common definitions and understandings of key terms, and identify indicators or rubrics for measures of scaling, low growth, low carbon, social justice, up versus out, and more.

   Objective 3- To examine ways and means by which key elements of mostly place-based social innovation used in one sector could be used in novel ways to address a problem or challenge faced by another sector (for example, could the land trust models used for conservation and community housing be used for a community energy project?). Can we adapt solutions from one sector to different sustainability problems?

   Objective 4: Is Network development a more relevant means of scaling up innovation given contemporary tendencies of globalization? How does it differ from the kinds of project replication and scaling described above? In a network are there distinct ways of defining and organizing mezzo level activities upwards or downwards?

   Objective 5: We know that context is crucial. We need to concentrate on the scaling literature and read it for value and limitations. Is scaling sustainability and social economy innovation more complex than other kinds of social innovation scaling? Much theory of diffusion of innovation focusses on a single technological system (horses replaced by cars). Does the complexity of sustainability transitions require a differ kind of thinking about scaling up? Does the 'application' of a social innovation alter scaling?

   Objective 6: How do climate change and peak oil alter how we might consider transitions? What is role for critical media and communication in scaling up sustainability in current contexts?

   All suggestions welcome!

Knowledge Mobilization

The PDG proposed development of a KM plan for how the Research Clusters work together and learn from each other between now and next year. The Leadership group are proposing a series of teleconferences or Adobe Connects presentations by thinkers working in key areas.

Whomever we ask to lead such a webinar should benefit all of us in some ways, regardless of our home research cluster. A regular series is worth exploring for building a common research culture and framework.

We might consider inviting KM speakers from "cases in the process of scaling up" to speak with us about the full range of issues as they see them. This might pave the way to their inviting us to accompany them as researchers or their joining the BALTA partnership application as a participating community project.

Invite speakers/interviews with key practice based sectors that we have identified to discuss their work and our research into scaling up. Suggestions please?

Some of this work will also be shared more widely with students and communities. Summaries or outtakes from webinars (text, audio, video) could be repurposed in a series of online Aurora Interviews and *i4* magazine articles which provide web vehicles for broader consumption.

MMM Membership

Academic lead: Mike Gismondi
Practitioner lead:

Canadian members: Brian Belcher
                     Debra Davidson
                     Josh Evans
                     Will Low
                     John Restakis
                     Byron Miller
                     Mike Toye

UK members: Pat Conaty (macro-modelling nef piece only)
                     Angela Espinosa
                     Tim Jenkins (macro-modelling nef piece only)
                     Ed Mayo
                     Robin Murray
                     Jon Walker

Tentative Time Frame

The overall research plan and related documents must be submitted by February 2014. Research clusters must do most of their formative work by teleconference or online between now and June 2013. If possible, some of us should plan to meet at Congress in Victoria in June 2013. Mike Lewis will be giving a keynote at ANSER.

We have scheduled a two-day symposium for early October of 2013 in Athabasca that we will use to discuss and debate the final design proposed for the long term research program. Refining the application will take place in the weeks following the symposium.

Meetings of our group, MMM, will be scheduled for every 6 weeks. I would like to squeeze one in early January. In the interim I hope to start an online discussion board to advance our work, and for us to meet one another. In addition, I hope that you will help identify some speakers for webinars that will help us further our thinking. We will try to schedule some of these over the period from January to June of next year (the realistic number that can be effectively done has not yet been assessed). As mentioned, we plan to meet at ANSER and Congress in Victoria in 2013 in June.

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