

Reflections on LCMT – 5 city projects and broader aspects



Koh Samui

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APEC Low-Carbon Model Town Wrap-up Symposium

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Hosted by Japan (Online)

Organised by Asia Pacific Energy Research Centre (APERC)



Krasnoyarsk



Tianjin

My role in LCMT and APEC

- Research and review **visits to 10 LCMT cities** and visits to 12 APEC cities for other reasons
- Input to LCMT documents
- Presentation to APEC **Energy Ministers meeting**, Cebu 2015 *Our efficient, smart, flexible, distributed and diverse energy future*
- Presentation to APEC **workshop**, Manila 2016 *Energy Efficiency Policies and Practices in MSMEs - Australian Experience [MSME=Micro, Small and Medium-sized Enterprises]*
- Presentation to Canberra APEC **Energy Working Group** 2016 *Low Carbon Model Towns Project: A personal perspective on its evolution and future directions*

LCMT Sites I reviewed for this symposium	Personal visit	Response to APEC Questionnaire	Review of presentation for this symposium
Tianjin, China (Yujiapu – greenfield financial district)	2016	N	Y
Koh Samui island, Thailand	2015	Y	Y
Bitung, Indonesia (within province of North Sulawesi)		Y	Y
Krasnoyarsk, Russia	2016, 2017	Y	Y
Khon Kaen, Thailand		Y	Y

Common issues for cities

Koh Samui – roadside shops, for tourism and micro-business development

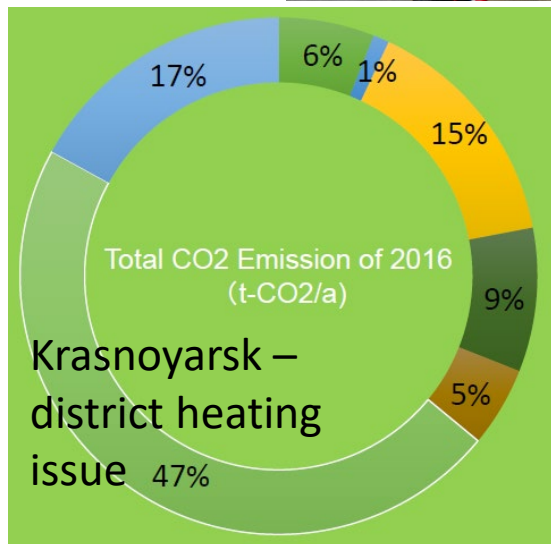


Broad issues

- Complex interactions between city, provincial and national governments
- Limited resources, local capabilities and funding/finance for city governments, planning and implementation
- Cities lack formal powers and resources, while facing many immediate pressures and priorities
- Crises divert resources and funds (eg COVID pandemic, floods, storms, wild fires)
- Changing city leaders and staff lead to changing priorities
- Challenges making low carbon action a high priority for community, business and leaders: focus on immediate, tangible issues
- Challenges addressing local factors eg extreme climates, local cultural factors, inefficient district heating

Detail

- Poor data, inconsistent indicators, irregular reporting
- Future energy demand and economic growth often over-estimated
- Potential of many benefits from energy efficiency improvement, digitalisation under-estimated; costs of EE and RE are falling



Success factors for cities

The National Cross-Country Skiing Center and the National Biathlon Center are among the competition venues in the Zhangjiakou competition area of the [#Beijing2022](#) [#WinterOlympics](#). At present, most of the main projects have been completed.



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China – winter Olympics (APSEC)



*Generators in front of a section of Alayabiagha Market, Alaba, Lagos. Photos: Femi 'Asu

Small generators – expensive, dangerous, polluting, inefficient!

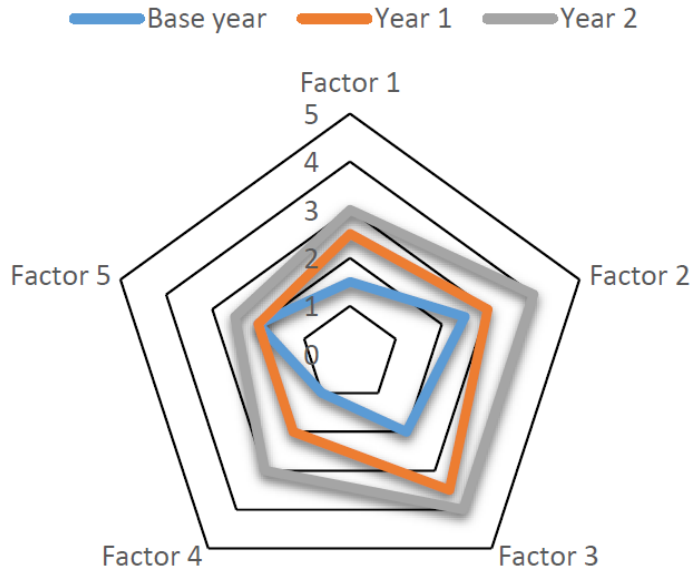
Broad issues

- Incorporate low carbon measures in high profile events – transport upgrades, icon buildings, promotional materials
- Build city's profile as leader, demonstration, pilot in provincial and national programs and policies
- National, provincial leadership and support, international funding

Detail

- Link to local issues and concerns – sustainable tourism, waste management, air pollution, low pollution cooking, traffic congestion, safety, improving reliability of power supply, local climate, etc
- Promote achievements, reward innovators
- Voluntary action, incentives, visible improvements can motivate (eg free Wi-Fi in public transport, safe infrastructure for e-bikes, public lighting)
- Effective communication, including social media
- Partnerships with research organisations, businesses, city networks
- Innovative financing for implementation by business, community, city, government agencies

Issues for cities and LCMT

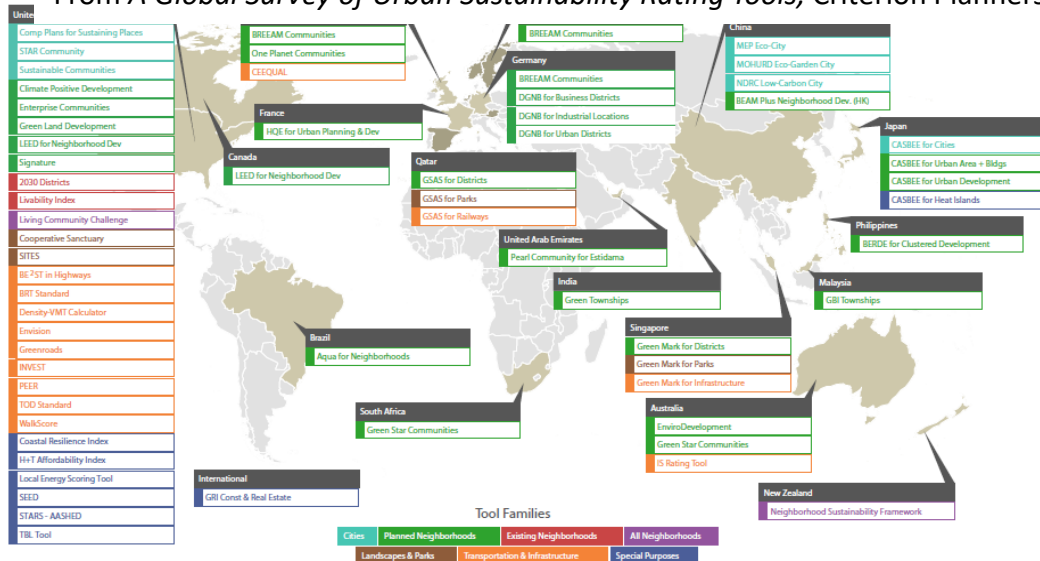


An option for LCT-I to reflect progress?

The World of Rating Tools

22 economies and 59 rating tools

From *A Global Survey of Urban Sustainability Rating Tools*, Criterion Planners, 2014



Two-edged swords

- Regulations and institutions (eg energy utilities) can block, support or lead change
- Communities and influential groups can oppose 'perceived threat' or feel victimised by change

LCMT and LCT-I issues

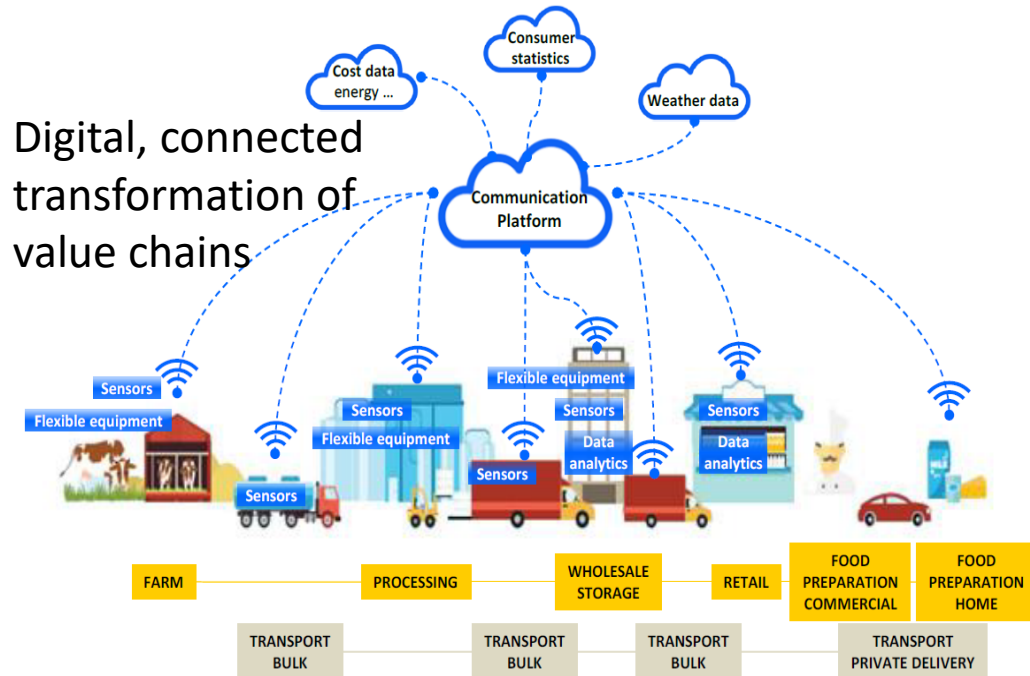
- Engagement with international experts, feasibility studies very helpful, LCT-I assessment built knowledge, supported and focused policy, action
- Cities need support, training to implement and regularly repeat LCT-I assessment and track progress
- Limited focus of LCT-I on progress
- Greenfields project ratings based on plans, not performance
- Self assessment lowers barriers to adoption but limits consistency
- LCT-I competes with many other rating systems

Emerging issues for cities

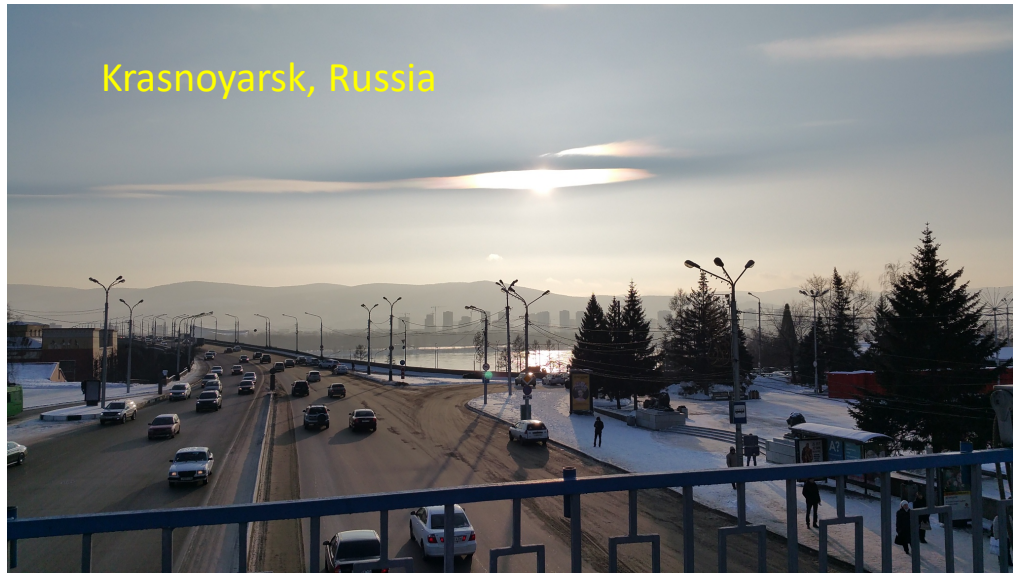
Krasnoyarsk – increasing cooling



Inter and intra-organisation information flow across interfaces using I4.0 technologies in the food value chain



- Zero net emissions ASAP
- Climate resilience, recovery (building back better) after natural disaster, with net zero carbon infrastructure decisions – eg building materials (50% of global steel) and future operating emissions
- UN Sustainable Development Goals, global funding needed
- Divert capital to zero carbon investment – global businesses under increasing pressure
- Focus on energy efficiency and smart management/energy storage – integrate demand side and supply side policy development and implementation
- Cars occupy a lot of valuable space and are expensive to own and operate – reduce need to travel, use zero carbon, space-efficient transport modes
- Low carbon tourism and business travel: virtual travel and ‘meaningful’ carbon offsets
- Adapt to smart, connected distributed, flexible, accountable business/manufacturing/energy models, circular economy, resilient supply chains

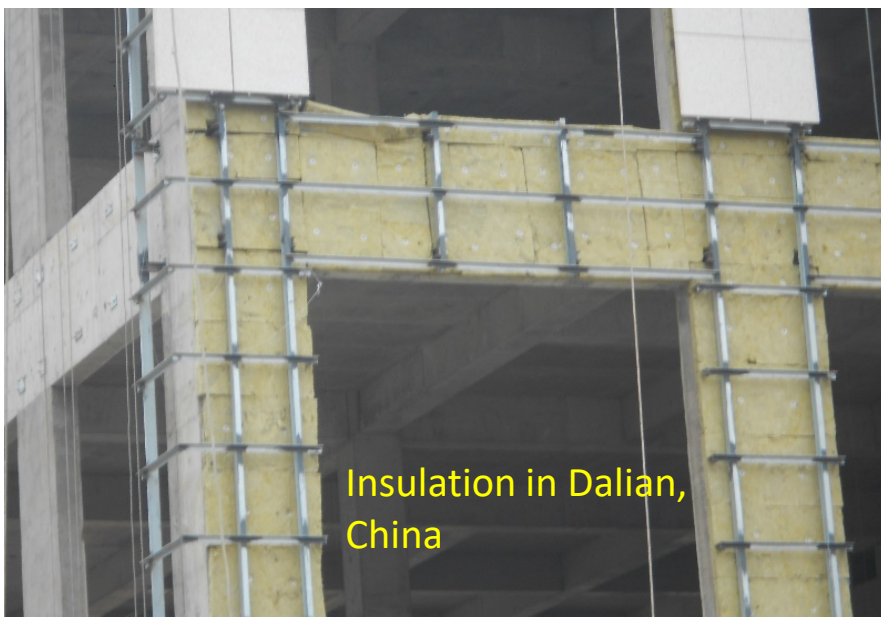


Krasnoyarsk, Russia



Tianjin, China

The End Thankyou



Insulation in Dalian, China



Zero net energy building, Japan