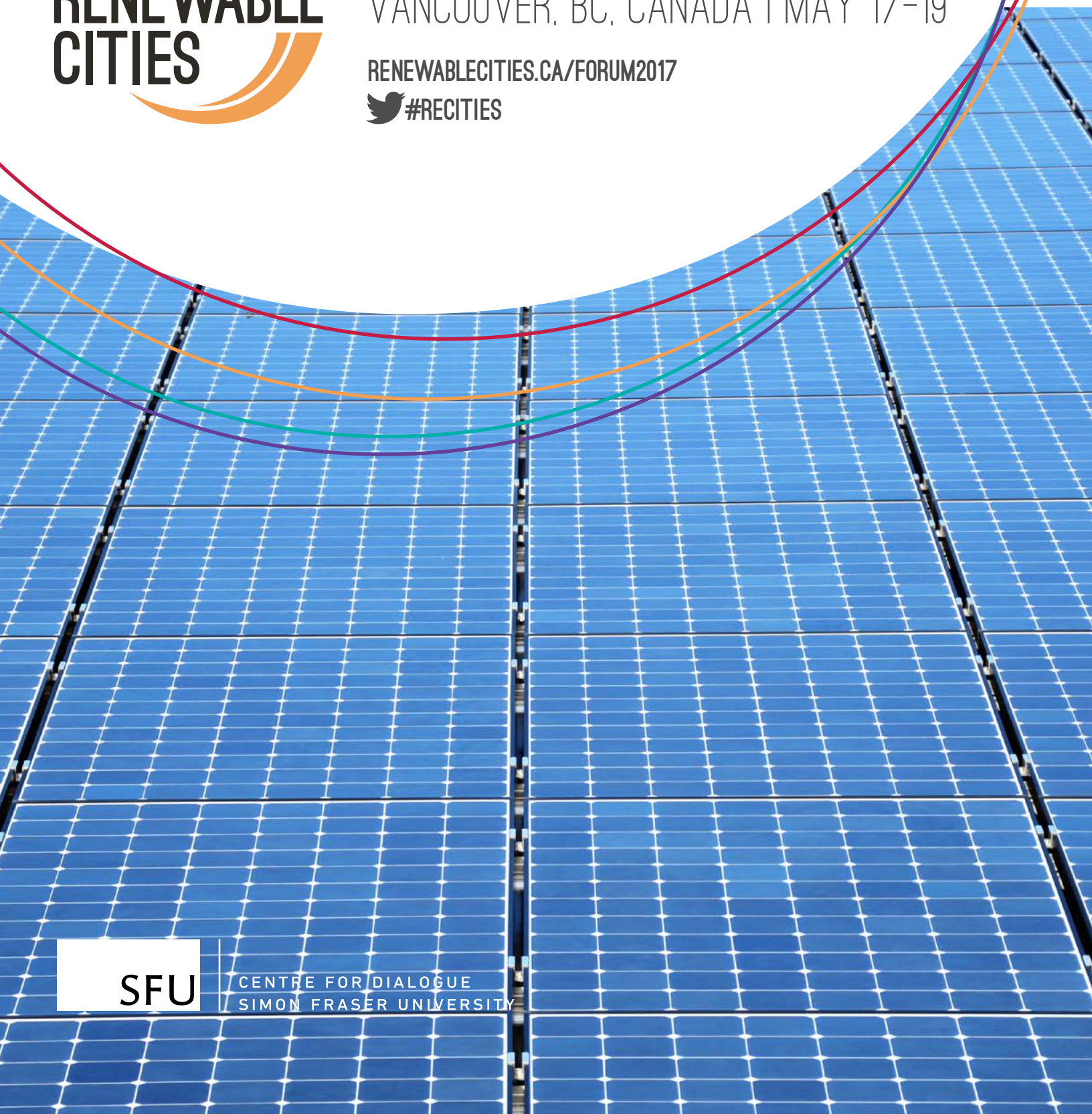
RENEWABLE CITIES

FINAL REPORT
GLOBAL LEARNING FORUM 2017
VANCOUVER, BC, CANADA | MAY 17-19

RENEWABLECITIES.CA/FORUM2017

#RECITIES



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INTRODUCTION

GLOBAL LEARNING FORUM 2017

Global Learning Forum 2017 was convened by Renewable Cities, a global initiative of the Simon Fraser University Centre for Dialogue, from May 17-19, 2017 in Vancouver, British Columbia, Canada.

Forum 2017 provided the platform for a solutions-focused dialogue on the transition to 100% renewable energy in cities. Leaders from multiple sectors from around the world gathered to share their ideas and learn from other participants. It consisted of 85 session leaders, 30 workshops, 7 plenary sessions, and five site visits and other sessions.

KEY OUTCOMES

Global Learning Forum 2017 was designed to maximize dialogue and exchange. As identified by participants, the most valuable outcomes of the event were:

- Bringing together a diverse group of urban renewable energy leaders
- Developing a community of practice
- Sharing urban renewable energy planning opportunities

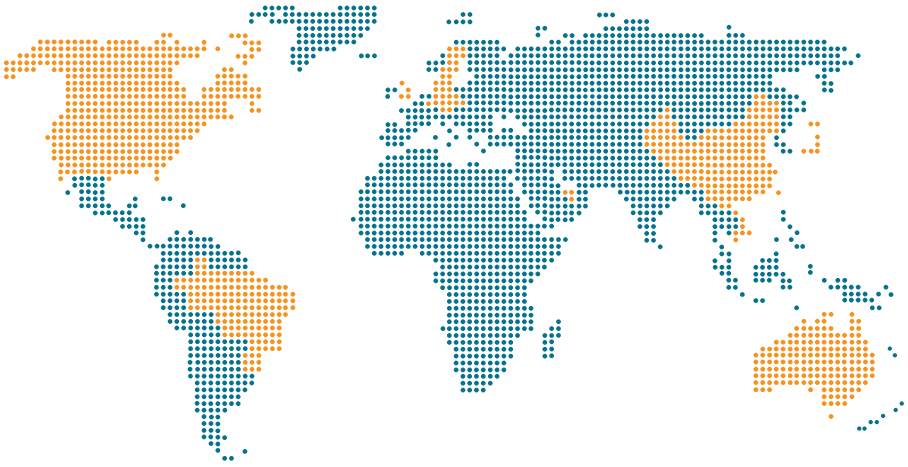
ABOUT THE FINAL REPORT

We have strived to document Global Learning Forum 2017 to the fullest extent possible. This report contains a synthesis of key ideas from Forum 2017 and is a jumping off point for online reports, videos, and presentations from the event's over three dozen plenary sessions and workshops.

We hope it will be useful to all leaders, thinkers, innovators, and others who are pushing the envelope of what is possible for energy in cities.

WHO CAME?

320 PARTICIPANTS



13 COUNTRIES

Australia
Belgium
Brazil
Canada
China
Denmark
Germany
Japan
Sweden
United Arab Emirates
United Kingdom
United States
Vietnam

8 PROVINCES

CANADIAN PROVINCES	PARTICIPANTS
British Columbia	191
Ontario	28
Alberta	14
Saskatchewan	7
Manitoba	4
Québec	3
New Brunswick	1
Nova Scotia	1

MULTIPLE SECTORS

SECTOR	PARTICIPANTS
Municipal or sub-national government (staff)	81
NGO, non-profit, or city network	67
Private sector	51
University	38
Municipal or regional government (elected official)	23
Foundation	14
National government staff	19
Other (individual, utility, media, association)	19
First Nations	8

14 STATES

U.S. STATES	PARTICIPANTS
Oregon	9
California	7
Washington	7
New York	6
Colorado	5
Illinois	3
Massachusetts	3
Vermont	2
Alaska	1
Florida	1
Kentucky	1
Minnesota	1
Montana	1
Pennsylvania	1

SESSIONS

Individual session reports are available at renewablecities.ca/forum2017-program

The interactive PDF contains session links.

PLENARY SESSIONS

- Visionary Futures
- Renewable Cities: A Conversation with IRENA
- Mayors' Dialogue: From City Leadership to Global Impact
- Private Sector Allies and Partners for Cities
- How Renewable Energy is Changing Conventional Thinking About Energy for Cities
- Transformative Actions on the Road to 100% Renewable Energy in Cities
- Closing Plenary

KNOWLEDGE MOBILIZATION WORKSHOPS I

- Blockchain and Smart Tech: Enabling Local Energy Markets and Relieving Intermittency
- Creating an Ecosystem That Fosters Innovation: Looking at the City of Edmonton from MaRS
- Delivering on Zero-emissions Freight
- Demystifying Renewable Energy Project Finance
- Putting All the Options on the Table: Utility Municipalization in Boulder
- Renewable Cities Need Renewable Buildings
- What's the BEEP? Assessing SME Business Emissions in Cities and Engaging the Private Sector

KNOWLEDGE MOBILIZATION WORKSHOPS II

- Canadian Municipalities Committed to 100% Renewable Energy
- From Technical Support to Planning Tools, the National Renewable Energy Lab Has Resources for Cities and Is More than Willing to Share
- How Can Cities Get Smart(er) and Prepare for Disruptive Technologies: EVs, Distributed Energy, Cheap Solar, Autonomous Vehicles, Sharing Platforms
- Options for Financing Deeper Energy Efficient Retrofits in Buildings
- Shifting Power: Equity in Climate and Energy Planning
- Solar + Storage: Google and the City of San Francisco Offer Cutting-edge Distributed Energy and Storage Solutions
- Strategies to Reduce Soft Costs for Solar Installation
- Uniting Urban Planning Processes with Infrastructure Decision-making Using the IEA's Annex 63 Project

INTENT TO ACTION WORKSHOPS

- Advocacy Campaign Clinic: Bringing Citizens, Elected Officials, and Business Groups on the 100% RE Road Trip

- First Nations Clean Energy Projects: The Secrets to Success
- Measuring the Benefits of Moving to 100% RE on the Local Economy
- Megawatts and Marbles: The Renewable Energy Game You Want to Win
- Net Zero Without Glitches or Hitches: Putting the B.C. Energy Step Code into Practice
- Opening a Dialogue on Renewable Thermal Energy: How Might the Future Look?
- Scaling Up: Transforming Equity-based Community Pilot Projects into Region-wide Solutions
- Transforming Municipal Processes and Structures Towards the Local Energy Transition

PEER TO PEER WORKSHOPS

- Addressing EV Charging Infrastructure in Multi-unit Residential Buildings
- Benchmark Data on Building Performance: What It Tells Us and How to Use It
- Building Blocks for a 100% RE Transformation: Learnings from Germany and Canada
- From Alaska to Australia, Remote Communities Are Quietly Leading in Renewable Energy Implementation
- How States and Provinces Can Promote Renewable Energy Leadership by Municipalities
- Kickstarting Renewables and Energy Projects in Cities by Building Strong Business Cases
- The Role of Renewable Energy in Resilient Cities

SITE VISITS

- Heat Reclamation at Vancity's Headquarters
- SFU's UniverCity Complete Community and Living Laboratory
- UBC's Campus Energy Centre and Bioenergy Facility
- Vancouver "Cycling City", A Community in Transition

OTHER CONTENT

- Film screening and panel: "From the Ashes"
- Showcase Space

PLENARY AUDIO AND VIDEO ARE AVAILABLE ONLINE ON THE RENEWABLE CITIES YOUTUBE CHANNEL

SYNTHESIS

Our first Renewable Cities Global Learning Forum, held in May 2015, highlighted the convergence of three global trends:

- The falling price of renewable energy;
- The desire of many cities for cleaner, more secure, and more predictable sources of energy for their citizens; and
- The leadership role being played by cities to address climate change.

Inspired by these trends, local governments starting in Europe and now around the world have set their own targets to reach 100% renewable energy, in one or more sectors of energy use. Global Learning Forum 2015 celebrated the emergence of this movement and demonstrated how such a goal is both possible and desirable for cities around the world.

When we met again two years later in May 2017, these trends had progressed significantly. Participants from 105 different municipalities across 13 different countries and 22 provinces and states took part in Global Learning Forum 2017.

This time, the overarching question around which we designed the Forum was not “why” but “how” to move to 100% renewable energy in cities.

This synthesis pulls together a wide range of global developments and ideas shared during our 2017 Forum by leaders, innovators, and implementers in the movement towards 100% renewable energy in cities.

IMPERATIVE FOR ACTION

There is now a worldwide energy transition underway, away from fossil fuels and in favour of renewables. The price of renewable sources for electricity, especially wind and solar, has fallen so dramatically that new investments in renewables overtook investment in fossil fuels in 2016. Some of the lowest cost renewable investments have been in developing and emerging economies, such as in India, Morocco, and Chile.

The public health concerns about fossil fuel pollution have become more acute for many cities, whether it be emissions from diesel vehicles in European cities or from coal-fired power plants in China. Both contexts are driving new urban policies that favour renewables.

Access to affordable and clean renewable energy is increasingly being seen as a solution to health and social inequality issues throughout cities in North America. Energy access and energy security concerns are also driving a new interest in shifting away from imported diesel to renewables in remote communities from the Arctic to the outback of Australia.

Increasingly, renewable energy is being viewed at the local level as a key to unlocking economic development and jobs growth. Local governments are fostering local economies in partnership with the private sector and academia that focus on cleantech research and development.

GLOBAL MOMENTUM

At the global level, the Paris Agreement has now established a solid international framework for cooperation on climate action. While cities are not themselves bound by the accord, the role of cities and regions in setting their own targets—often ahead of their national governments—has been widely recognized by participants at the last two Conferences of the Parties (COPs). In the Paris City Hall Declaration of December 2015, nearly 1000 city elected officials acclaimed an aspirational

target of either 100% renewable energy or an 80% carbon reduction target by 2050. The new Global Covenant of Mayors for Climate and Energy will create a broad global platform for climate action by cities. The Under 2 MOU is doing the same for sub-national governments. To support cities and regions at the leading edge of this transition, the Global 100% Renewable Energy movement now has a new institutional platform.

The greatest growth in the last two years in the number cities and towns committed to working towards 100% renewable energy has been in North America. Three cities in Canada and no less than 40 cities and towns across the United States have now set such a target. The recent decision of the current U.S. federal government to withdraw from the Paris Agreement has galvanized a number of American cities in taking concerted action to reduce their emissions. Thus, the U.S. Conference of Mayors at its most recent annual meeting declared it would support American cities in setting a community-wide goal of 100% renewable energy by 2035.

CREATING NEW MARKETS FOR LOCAL DISTRIBUTED RENEWABLES

The combination of new consumer-driven smart technologies with increasingly cheap, small-scale renewable energy is creating pressures on the traditional centrally-controlled utility model for generating and distributing energy.

For example, Google has been explicitly driving both of these trends in the U.S. through Project Sunroof, which enables households to easily understand their potential for generating solar PV on their rooftops. It then connects homeowners to equipment vendors and installers.

Sophisticated demand-response and peer-to-peer energy trading systems now allow the grid to "talk in two directions" to both local energy producers and consumers. Blockchain technologies offer the possibility for creating real-time electricity trading through community-level micro-grids without the need for centralized control. These technologies enable new ways of load balancing to increase grid resilience and efficiency, and thus increase the ability of grids to carry higher levels of variable renewable energy.

Emerging information technologies can also create new energy markets for energy efficiency. For example, a model called MEETS—Metered Energy Efficient Transition Structure—measures in real time the difference between what tenants would pay for electricity and heating/cooling versus what they would pay after a deep retrofit. This differential creates the opportunity to resell saved energy back to the utility by a third-party investor that finances the retrofit, rather than the building owner or the tenants—neither of whom have a sufficient incentives to pay the upfront costs for efficiency measures. The MEETS model thus re-aligns the split incentives between tenants, building owners, and utilities that have discouraged investments in deep retrofits up until now.

There is also a trend in clean energy projects away from large, institutionally-funded energy projects, to smaller and community-based projects. This growing market has been enabled by the growth of online platforms for fundraising and impact investment models. To be attractive for private financing, such projects need to have a clear revenue model backed by assets, use proven technology, and have an experienced management team. Separate communities can work with a common financial intermediary to design similar clean energy projects that can be bundled into attractive, scalable investment opportunities for institutional investors.

Distributed and local renewable energy generation is also opening up opportunities for underserved populations in developing country cities, for whom hooking up to the grid can be extremely expensive and the quality of the connection unreliable. Micro-grids connecting small-scale solar producers to urban consumers in the Global South are rapidly emerging, creating new markets for more reliable electricity distribution.

CITIES SIGNALING TO MARKETS

A strong theme throughout the Forum was how cities can serve as important enablers of consumer demand in favor of more distributed, local, renewable energy. One way that cities can do this is to reduce the "soft costs" of installation that their zoning and permitting practices impose on citizens and businesses, in particular for rooftop solar. These actions help cities move away from being a flow-reducer for installed solar, and help provide certainty to the local industry.

Another method is to enable community solar projects on public buildings, or on privately-owned buildings managed by co-operatives. The Pingala Cooperative project in inner city Sydney, Australia, coordinated the use of a local brewery's

roof space to be used for a pilot, community-owned solar project. These kinds of initiatives are especially important in inner city and low-income communities where most people are renters and do not own the roof-tops that might be used for local solar PV projects.

Cities hold a transformative power to send signals to the market, by creating the political space and energy demand for the supply of renewables and other energy solutions. The Director-General of the International Renewable Energy Agency (IRENA), Adnan Z. Amin pointed out that, "the decisions of mayors and regional governments may not change national policy overnight, but the cumulative signals to industry and the political system are going to be immensely powerful."

For example, when the City of Sønderborg, Denmark, first introduced programs requiring wood building construction there was initially criticism about the costs. "But we stuck with it and builders in our area learned how to do wooden construction," said Deputy-Mayor Aase Nyegaard. "Now it's more or less the same price as concrete." She explained that the city's building policies have helped foster a race to the top in terms of energy efficiency.

Setting ambitious renewable energy targets can also help cities build strong "green" brands, which are widely valued by private sector partners. Växjö, Sweden, which in 1996 set a long-term target to become fossil fuel-free, was recognized several years ago as the "greenest city in Europe." "We have noticed that this [recognition] is something that companies use to market themselves," said Mayor Anna Tenje. She cited that Volvo approached her three years ago with a goal to establish a CO2-neutral factory in Växjö. "And guess what—they did. They know this will help them with competition in other places in the world."

Cities' policy choices can accelerate market pressures in favour of renewables. A decade ago, California pioneered new laws enabling consumer choice aggregation so customers preferring to consume renewably produced energy can aggregate their market demand. This law enabled the City of San Francisco's municipal utility to compete successfully with a large investor-owned utility by offering a new "green electricity" scheme to its citizen-customers, thus increasing the city's control over its own electricity supply while moving towards its goal of 100% renewable electricity.

Most city-owned utilities do not produce their own electricity. However, in Boulder, Colorado, driven by citizen and consumer pressure, the city is engaged in a protracted legal battle to be able to opt out from having to buy electricity from the investor-owned utility that remains committed to coal. Boulder's aim is to be able to create its own municipal utility that will supply renewable energy for its citizens. If this initiative succeeds, it will no doubt inspire other North American cities to consider following the same path.

SETTING TARGETS, SECURING SUPPORT

Cities can use different metrics to frame their long-term energy and emissions goals, such as: reducing emissions by 80% by 2050, moving to 100% renewable energy, or becoming fossil fuel-free. At a high level of ambition, these goals converge. As Tyrone Jue from Mayor Lee's Office in San Francisco explained, "we have long had commitments to reduce our carbon emissions by 80% by 2050. You're not going to get there unless you are transitioning to a 100% renewable energy future."

The former Mayor of Rio de Janeiro, Eduardo Paes, argued local governments are responsible for addressing "everyday climate change problems". Cities need to frame the benefits of an energy transition to a broader constituency and not just to those citizens concerned about environmental goals.

Municipalities set 100% renewable energy targets for a wide range of reasons and take a variety of approaches. The driving force behind ambitious renewable energy targets can come from the top down or bottom up, but common among these goals is a strong economic rationale. Locally relevant solutions inspire people and get them invested in the energy transition.

As the costs of renewables and other energy solutions continue to fall, the remaining barriers to adoption are increasingly social and political rather than technological. Engaging a wide coalition of citizens and stakeholders is key to the success of any 100% renewable energy campaign. A successful advocacy campaign has to speak to the community values of different target audiences and show how renewable energy advances those values rather than challenging them. Fortunately, the wide range of renewable energy co-benefits—from improved health outcomes, to providing new jobs, to enabling greater energy autonomy, price stability, and resilience—offer a wide range of potential arguments that can appeal to different audiences. There remain many unknowns towards implementing a 100% renewable energy target; attaining this goal requires plenty of goodwill from different sectors as they move forward and work together.

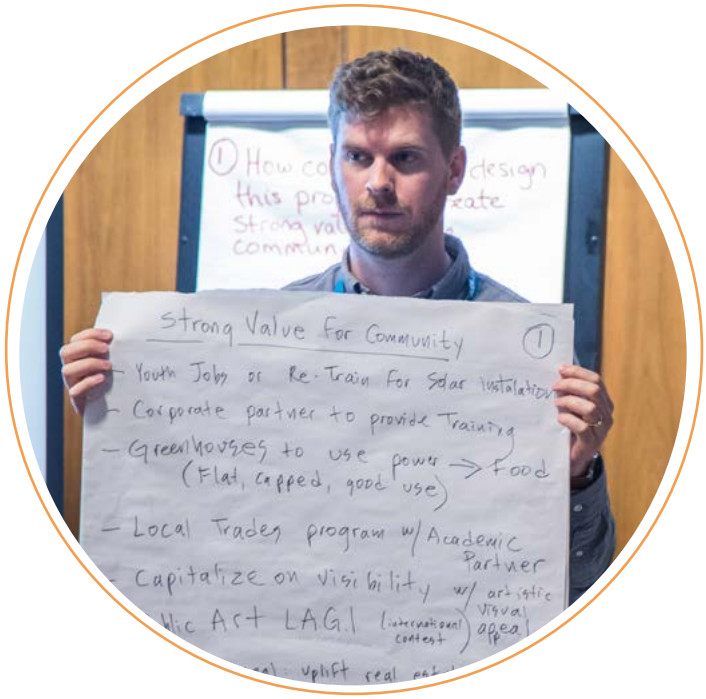
Since 2015, the Global 100% RE campaign has developed its early work on 100% RE indicators into a series of ten "Building Blocks", which governments can use to better understand their own energy context and move forward on implementation. According to this tool, the first steps of planning for 100% renewable energy are to: know your energy baseline; leverage existing groups and actions; and install pilot projects to engage the public. Leadership and political will lead to solutions on the ground, even before a path to 100% renewable energy has been mapped.

DATA FOR CITY ENERGY PLANNING

New tools are making it possible for cities to measure and track their energy use which is essential data for any plans to increase energy efficiency and reduce emissions from fossil fuel use. Climate Smart's BEEP—Business Energy and Emissions Profile—is one tool that can help cities model the impact of their energy decisions and visualize the results, which in turn supports stakeholder and community engagement.

Cities such as New York and Chicago have introduced energy benchmarking programs for commercial buildings over 50,000 square feet. Both cities have found ways of reconciling these mandatory disclosure programs with the data privacy concerns of utilities and consumers. Programs in both cities have secured a high degree of buy-in from building owners and real-estate associations.

The new British Columbia Energy Step Code takes public-private collaboration around shared data to a higher level. It identifies steps on a ladder of standards that local governments can choose from to increase the energy efficiency of new



buildings, up to net zero emissions. This code was developed by an advisory committee of local governments, civil society, utilities, developers, and builders. It enables local governments to select the appropriate steps, policy mechanisms, scale and level of incentives to achieve multiple community objectives.

EQUITY IN ENERGY TRANSITIONS

Equity in energy transitions was another important theme that cut throughout Forum 2017. Local governments need to ensure that their energy transition plans address the needs of low-income and/or marginalized members of the community. As a first principle, the people most impacted by a problem are often the best equipped to identify a solution. Cities should ensure that representatives of specific communities, who have not always had access to the decision-making table, are represented in community deliberations. This includes providing them with the resources to participate in committees and other decision-making processes. Local governments should proactively set goals that will maintain or improve the affordability of energy for low-income communities. Cities need to be sensitive to the unintended consequences of their "green policies" for these low-income communities – e.g. increasing property values can displace low-income or marginalized communities. They also should consider the equity impacts of their supply chains and job creation programs. For example, programs to train solar panel installers can be specifically targeted to create jobs that will benefit low-income communities.

REMOTE COMMUNITIES AND INDIGENOUS COMMUNITIES

For people in living in remote communities, such as in Alaska or the outback of Australia, renewable energy projects can offer many benefits provided they are grounded in community values and local decision-making. Producing their own electricity via renewables can increase the sense of community empowerment while dramatically reducing the cost of electricity in remote areas. In Alaska, 70 out of 200 communities are now taking advantage of grid-scale renewables. One Australian participant reported that renewable energy has levelled the playing field and opened dialogue for indigenous peoples. "Elders are feeling heard for the first time."

New survey results show that First Nations in British Columbia are very supportive of developing renewable energy projects and recognize the broader community benefits they can bring. First Nations communities in B.C. have access to funding support and planning tools that are specifically designed for them.

SCALING UP FROM THE LOCAL LEVEL

Another theme was how successful initiatives in one community can be replicated in others and/or scaled up to have a wider impact. Given that multiple layers of jurisdiction affect energy policy and implementation, it is common that popular community initiatives often face regulatory or other barriers from more senior levels of government. Working horizontally through collaborative networks at the community level is one effective response to these challenges. A good example of such a collaboration is the Northern Alliance for Greenhouse Action, which brings together 22 local councils across greater Melbourne, Australia, to share their learning and leverage each other's capacities. Early adopters tend to look to their peers for inspiration—and not necessarily to more senior levels of government.

Local governments often can move much further and faster towards 100% renewable energy than sub-national or national governments as they face fewer vested energy interests that can block progress. Senior levels of government can facilitate leadership by the most progressive cities largely by removing barriers to experimentation and the ability for local governments to set their own standards. A less appreciated role for more senior levels of government is to assist municipalities that are struggling to meet minimum provincial or national standards. Bringing along the "laggards" can create an enabling environment for early adopters to lead.

UNRESOLVED CHALLENGES

During Global Learning Forum 2017, participants shared a number of unresolved or ongoing issues in undertaking the urban energy transition. Anticipating and planning for the speed of technological and social change was a commonly cited problem, especially for infrastructure decisions for which the ramifications are felt for decades. This is particularly true in transportation planning, given the projections for rapid uptake in electric and/or autonomous vehicles. It is not obvious whether autonomous vehicle adoption will increase or reduce road congestion.

Systematic community energy planning requires breaking down organizational and cultural silos, within city governments and even moreso with other levels of government. One of the biggest gaps is to bring together urban planning done by cities with energy infrastructure planning done by utilities and other energy service provides. Common barriers include: getting local utilities to come to the table with city planners; the notion that urban planners and utilities do not speak the same 'language'; the lack of shared information (even in cases where there is municipal control over a utility); and the need for a holistic approach from both utility perspective and planning perspective.

Despite advances in energy and emissions data available to cities, it is still difficult to document the wide range of expected benefits of transitioning

to 100% renewable energy. It requires connecting these benefits with sources of data that are reliably collected over multiple jurisdictions, and that can be provably connected to a local economy. Further work is needed to develop reliable proxies for economic development to support a better understanding of the economic impacts of health, resilience, innovation, and other benefits of the 100% RE transition at the municipal level.

If cities are to become truly "renewable", they will need to account for the types and amounts of energy embodied in materials, particularly for buildings. There are different methodologies for assessing embodied carbon, which produce different results and are based on different assumptions. More research is needed to standardize these metrics and indicators.

DISRUPTION AND TRANSFORMATION

Thinking in terms of disruptive technology means we cannot predict future developments based on the past. Technology is disruptive when prices drop faster than expected and when uptake accelerates exponentially. While we cannot predict which technologies will succeed, we should expect new energy technologies to replace old ones. New tiers of governance are emerging while existing regulatory bodies and federal governments are becoming less relevant. Cities will both push and be pulled by technology, but will play an increasingly important role in citizens' choice of energy technologies as they are more closely connected to the people they serve.

Effective planning for a transition to renewable energy requires shifting roles between players that is not disruptive but transformative. Complex problems require complex interactions among the system elements and structures and hierarchies in which there is enough "freedom" to try new ways of cooperation. Such an approach requires a new kind of spirit in local governments, supported by courage and creative minds in the community. As it is difficult to predict, only by trial and error will we find ways for a greener and renewable energy future.

THE FUTURE OF 100% RENEWABLE ENERGY IN CITIES

What is clear is that over the past several years, the concept of 100% renewable energy in cities has matured and grown. The number of cities committing to an energy transition—whether that be through aspirational goals or legally binding legislation—is steadily increasing. An array of private sector companies, from Apple to General Motors to IKEA, are actively transitioning their facilities and fleets to be powered by 100% renewable energy. Community groups, think tanks, senior levels of government, and researchers are increasingly looking at ambitious climate and energy goals on the city level as a solution to the world's social, environmental, and economic challenges.

The communities and groups at the vanguard of the movement are pushing the envelope on policies, technologies, business models, and partnerships, creating the political space and knowledge base for other cities to follow suit.

Perhaps most importantly, the leading cities are setting a high bar and providing inspiration for the future of energy. This in turn is prompting locally-grown solutions through emerging communities of practice, which are globally networked and united by a common goal of striving for 100% renewable energy in cities.

EVALUATION

EVALUATION PROCESS

Of the 320 Forum participants, 58 filled out the Evaluation Survey. The distribution of respondent demographics closely mirrored the participant demographics and achieved a sample size of 18%, which can be considered a representative sample.

Participants rated Forum 2017 components using a 7-point scale, where a score of 1 meant the participant strongly disagreed, 4 meant neither agreed nor disagreed, and 7 indicated the participant strongly agreed with the statement. Feedback was collected using SurveyMonkey (paper surveys were made available on site and the results were then entered into Survey Monkey for the purposes of carrying out the analysis).

SURVEY RESULTS

Results were rated on a 7-point scale.

Please indicate your satisfaction with the practicalities of hosting this event:

- 6.47 - Registration process was efficient and friendly
- 6.31 - The food and facilities were of high quality
- 6.53 - Renewable Cities' team was helpful and knowledgeable

How effective were our communications leading up to and during the Forum?

- 6.21 - Communications leading up to the event were clear and effective and told me everything I needed to know about the event
- 6.28 - The Forum program had clear, relevant, and useful information
- 6.16 - The online resources provided clear, relevant, useful information

How was the overall delivery and content of the Forum?

- 6.21 - Facilitators provided clear explanations, guidance, and support
- 6.17 - Session leaders provided the necessary expertise
- 6.23 - Topics were timely and cross-cutting
- 6.21 - There were ample opportunities for meaningful participation
- 6.00 - There was the right balance of structured and unstructured activities

This Forum is intended to bring together an international community of practitioners with diverse interests in the transition to 100% renewable energy at the local level. To what degree do you agree with the following statements:

- 5.59 - A diverse range of perspectives emerged in the dialogues
- 5.93 - The dialogue format helped draw out ideas and insights
- 6.48 - I met new people I would not usually have the opportunity to meet
- 5.98 - The mix of participants was appropriate

The Forum was valuable in the following ways (participants checked all that applied):

- 80% - Introduced me to a diverse group of urban renewable energy leaders
- 77% - Made me feel part of an emerging community of practice
- 70% - Helped me better understand urban renewable energy planning opportunities
- 68% - Highlighted the need for collaboration for a successful transition to 100% RE
- 66% - Demonstrated renewable energy can contribute to climate and economic resilience
- 64% - Informed my work going forward
- 52% - Inspired me to apply dialogue principles and practices in my future engagement strategies
- 32% - Enabled deep dives into planning and implementing renewable energy strategies
- 9% - Other:

> *"Energized me in believing we can change."*
>
> *"I understand on a much deeper level global energy discussions and what is possible, and I am inspired to learn more."*
>
> *"Gave me an appreciation for the diversity of communities pursuing 100% renewable. Not just large urban centers, but many cities and towns for a variety of unique reasons."*
>
> *"Reminded me of the importance of co-benefits and communicating these along with the avoidance of co-harms"*
>
> *"Inspired me to push for our community to join the RE network."*

OUTCOMES

A tabulation of survey results yielded that the top three outcomes of Forum 2017 were:

- Bringing together a diverse group of urban renewable energy leaders
- Developing a community of practice
- Sharing urban renewable energy planning opportunities

Opportunities for improvement

Taken alone, the rating averages show Global Learning Forum 2017 was extremely successful and delivered exactly what it was intended to deliver. Without diminishing that success, it is important to be reflective about the qualitative feedback and the few poor ratings that were assigned. General observations for impovement include: Participants often felt rushed and disappointed there was not enough time for deeper engagement.

We heard resounding support from interviews conducted with participants following the event and praise for the Forum and most typically the advice we were given was:

- Share success stories, case studies, and innovative solutions.
- Dig into "the how" with details and results to back up "the why."
- Connect practitioners and help them learn from each other.

TAKEAWAYS

In the Evaluation Survey, we asked participants what their biggest takeaway was. Select responses included:

- "Hearing firsthand some of the struggles smaller/rural communities go through and what we can do to better support and applaud their ambition was very inspiring and eye opening."
- "My biggest takeaway was that there is a lot of uncertainty about our future energy needs, and that there really needs to be more regional discussions and collaboration."
- "That many people think in quite narrow horizons around their own position/problem. Many have challenges considering the bigger picture."
- "The big take-away is that cities are still in the thought/planning stages. Most don't have RE plans. Most haven't done the planning required to take steps towards RE."
- "It can be done; We are not crazy; It will take continued innovation and inspiration; people on the street still don't believe it or believe in leadership completely to get it done."
- "The speed of technological change that is already happening around us. I learned that the discussion about "if" renewables are possible is over and that cities are moving on to implementing."
- "Confirmation that it is the human being that has to be put at the core of the debate."
- "Biggest takeaway was seeing smaller local gov'ts committing to 100% RE for economic development purposes."

TESTIMONIALS

Select testimonials are included to demonstrate the breadth and depth of the event:

From the viewpoint of a city manager, the most valuable lectures were about the adoption pathways that cities around the world are taking towards renewable energy. Never had I had access to so many insights on this topic.

- Undersecretary for Innovation of Management, City of Niterói, Brazil

The Renewable Cities Global Learning Forum was an excellent opportunity to find out about leading policies, programs, and finance solutions to achieving ambitious renewable energy goals. It is rare to be exposed to such a diverse and high level set of speakers and workshop leaders, as well as have the opportunity to participate fully and provide my perspective.

- Policy Lead-Climate Change, Sustainability Victoria, State of Victoria, Australia

The 2017 Forum was the most stimulating, engaging and relevant conference that I have attended for a very long time. Participants were all interested in sharing experiences and people from around the world had passion and commitment to pursuing the promise of renewable energy.

- Chair, Committee for Ballarat, Australia

My "a-ha!" moment occurred in a participatory workshop on transformation of the municipal processes. In an expertly facilitated workshop, a group of strangers met over a challenge presented by one of our members, and we dove right in. We discovered that we had the world-wide diversity and experience to work together to find solutions for the Mayor of a small, economically challenged port town seeking to lead his citizens to prosperity beyond dependence upon carbon-based fuel.... Start where you are, and lead collaboratively.

- Environmental and Sustainability Manager, City of Spokane, Washington

MEDIA REPORT

EARNED MEDIA

- **Pique – June 15 – The long road to net zero:** https://www.piquenewsmagazine.com/whistler/the-long-road-to-net-zero/Content?oid=3674426#fromMobile
- **Business in Vancouver – May 26 – Clearing speed bumps on the rocky road to a low-carbon economy:** https://www.biv.com/article/2017/5/clearing-speed-bumps-rocky-road-low-carbon-economy/
- **Citiscope – May 26 – Small towns set big ambitions on renewable energy:** http://citiscope.org/story/2017/small-towns-set-big-ambitions-renewable-energy
- **Regina Leader-Post – May 24 – Regina councillors return from Vancouver with fresh view of renewable energy options:** http://leaderpost.com/news/local-news/regina-councillors-return-from-vancouver-with-fresh-view-of-renewable-energy-options
- **National Observer – May 19 – Market abandoning fossil fuels, says Adnan Amin:** http://www.nationalobserver.com/2017/05/19/news/market-abandoning-fossil-fuels-says-adnan-amin
- **Citiscope – May 19 – At 'renewable cities' forum, envisioning a city that produces more energy than it uses:** http://citiscope.org/story/2017/renewable-cities-forum-envisioning-city-produces-more-energy-it-uses
- **Vancouver Sun – May 18 – SFU Renewable Cities forum tackles task of pushing population to green power:** http://vancouversun.com/news/local-news/sfu-renewable-cities-forum-tackles-task-of-pushing-population-to-green-power
- **CBC British Columbia – May 18 – Interview with IRENA Director-General Adnan Z. Amin (2:19):** http://www.cbc.ca/news/canada/british-columbia/programs/onthecoast/may-18-2017-1.4122883
- **Roundhouse Radio – May 18 – Interview with Steven Nicholas, Vice President of the Institute for Sustainable Communities (ISC):** http://cirh2.streamon.fm/listen-pl-10010

OP-ED SUBMISSIONS

- **Vancouver Observer – May 15, 2017 – Making the shift: An autonomous vehicle future requires bigger thinking:** http://www.vancouverobserver.com/opinion/making-shift-autonomous-vehicle-future-requires-bigger-thinking
- **Vancouver Sun – May 4, 2017 – Gas rings and smoke rings over Vancouver's natural gas 'ban':** http://vancouversun.com/opinion/op-ed/opinion-gas-rings-and-smoke-rings-over-vancouvers-natural-gas-ban

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ABOUT US

Renewable Cities is a global program of Simon Fraser University's Centre for Dialogue in Vancouver, Canada. Our mission is to support cities through the transition to 100% renewable energy and increased energy efficiency.

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The Global Learning Forum 2017 team: Betsy Agar, Kathryn Sheps, Angela Paley, Keane Gruending, and Michael Small

APPENDIX: SPEAKER LIST

A complete speaker list, with biographies and session assignments is available online at: http://www.renewablecities.ca/dialogues-projects/global-learning-forum-2017/forum2017speakers.

PLENARY SPEAKERS

- Adnan Z. Amin, Director- General, International Renewable Energy Agency
- Tzeporah Berman, Environmentalist and writer
- Trevor Birtch, Councillor, Oxford County, Ontario
- Brock Carlton, Chief Executive Officer, Federation of Canadian Municipalities
- Lucia Casacia, Vice President-Cities and Infrastructure Projects, Siemens Canada Limited
- Karen Clarke-Whistler, Chief Environment Officer, TD Bank Group
- Michael Dean, Climate and Energy Project Coordinator, ICLEI Canada
- José Etcheverry, Professor, York University
- Janet Fraser, Senior Vice-President, BC Hydro
- Colleen Giroux-Schmidt, Senior Director, Innergex
- Tyrone Jue, Senior Advisor on the Environment-Office of Mayor Edwin M. Lee, City and County of San Francisco
- Gil Kelley, General Manager of Planning-Urban Design and Sustainability, City of Vancouver, B.C.
- Luciana Nery, Undersecretary of Innovation of Management, City of Niterói, Brazil
- Aase Nyegaard, Deputy Mayor, Sønderborg, Denmark
- Eduardo Paes, Former Mayor, City of Rio de Janeiro, Brazil
- Andrea Reimer, Councillor, City of Vancouver, British Columbia
- Gregor Robertson, Mayor, City of Vancouver, British Columbia
- Sybil Seitzinger, Executive Director, Pacific Institute for Climate Solutions
- Merran Smith, Executive Director, Clean Energy Canada
- Shauna Sylvester, Director, Simon Fraser University Centre for Dialogue
- Anna Tenje, Mayor, City of Växjö, Sweden
- Jodie van Horn, Director-Ready for 100, Sierra Club
- Michael Westphal, Senior Associate, World Resources Institute
- Ray Wills, Managing Director, Future Smart Strategies

WORKSHOP LEADERS

- Trenton Allen, Managing Director and CEO, Sustainable Capital Advisors
- Allison Ashcroft, Network Coordinator, Canadian Urban Sustainability Practitioners (CUSP)
- Mark Boysen, Manager of Corporate Engineering Services, City of Victoria, B.C.
- Melissa Bruntlett, Co-Founder, Modacity
- Chris Bruntlett, Co-Founder, Modacity
- Bryan Buggey, Director, Vancouver Economic Commission
- Stephanie Cairns, Director-Cities and Communities, Smart Prosperity Institute
- Erik Caldwell, Director-Economic Development, City of San Diego, California
- Fernando Carou, Lead-Community Energy Planning, City of Toronto, Ontario
- Tracy Casavant, Director of Resource Innovation, Light House Sustainable Building Centre
- Ken Church, Team Leader-Communities Group, Natural Resources Canada
- Tracey Cooper, President, The Valley Centre
- April Crawford-Smith, Convenor, Pingala Community Renewables
- Rebecca Danard, Executive Director, reThink Green
- Bob Deeks, President, RDC Fine Homes Inc.
- Ron Dizy, Managing Director, MaRS Advanced Energy Centre
- Elizabeth Doris, Principal, Laboratory Program Manager for State, Local and Tribal Audiences, National Renewable Energy Laboratory
- Manuel Fluck, PhD Candidate, Megawatts and Marbles
- Jonathan, Frank, Director of Projects, CoPower
- James Gardner, Utility Regulatory Consultant
- Jeff Giffin, Energy Conservation Manager, University of British Columbia
- Kaitlyn Gillis, Director of Wellbeing + Sustainability, Light House Sustainable Building Centre
- Suzanne Goldberg, Director of Research and Outreach, SFU's Sustainable Transportation Action Research Team (START)
- Rob Harmon, Director, MEETS Accelerator Coalition
- Claire Havens, Policy Lead, Climate Change Program-Sustainability Victoria, State of Victoria, Australia
- Jay Heaman, Manager of Strategic Initiatives, Oxford County, Ontario
- Gwen Holdmann, Director, Alaska Center for Energy and Power
- Cody Hooven, Chief Sustainability Officer, City of San Diego, California
- Klaus Hoppe, Director, Klaus Hoppe Consulting
- Matt Horne, Climate Policy Manager, City of Vancouver, B.C.
- Scott Kessler, Director of Business Development, LO3 Energy

- Matthew Klippenstein, Canadian correspondent, GreenCarReports
- Jonathan Koehn, Regional Sustainabiliy Coordinator, City of Boulder
- Chad Laurent, Vice President and General Counsel, Meister Consultants Group
- Rob Law, Project Manager, Northern Alliance for Greenhouse Action (NAGA)
- Anna Leidreiter, Senior Programme Manager-Climate, Energy and Cities, World Future Council
- Alexandre Louis, Vice President, AddÉnergie
- Zachary May, Acting Director, Policy and Codes Development- Building and Safety Standards Branch, Government of British Columbia
- Dale Mikkelsen, Vice President, UniverCity
- Peter Moser, Head of Sustainable Development- Partner and Senior Scientist, Institute Decentralised Energy Technologies (IdE); KMK
- Steve Nicholas, Vice President of US Programs, Insitute for Sustainable Communities
- Tom Nockolds, Secretary, Pingala Community Renewables
- Meg O'Shea, Green Economy Community Coordinator, Vancouver Economic Commission
- Cathy Pasion, Senior Energy Policy Advisor, New York City Mayor's Office of Sustainability
- Fritz Rettberg, Head of Innovation Management, ie3 Institute of Energy Systems- TU Dortmund University
- Cole Rheaume, Energy Program Specialist, BC First Nation Energy and Mining Council
- William Rucklidge, Software Engineer, Google
- Judith Sayers, Adjunct Professor-Schools of Environmental Studies and Business, University of Victoria
- Elizabeth Sheehan, President, Climate Smart
- Scott Sinclair, President and CEO, SES Consulting
- Carissa Slotterback, Associate Professor, Humphrey School of Public Affairs- University of Minnesota, Associate Professor
- Rory Tooke, Community Energy Planner, City of Surrey
- Katie Walsh, Senior Manager-Cities North America, CDP
- Robyn Wark, Team Lead-Sustainable Community Program, BC Hydro
- Chris Wheat, Chief Sustainability Officer, City of Chicago
- Steve Williams, President, Constructive Public Engagement
- Desiree Williams-Rajee, Equity Specialist- Bureau of Planning and Sustainability, City of Portland, Oregon
- Jason Wolfe, Director of Energy Solutions, FortisBC
- Sharon Wright, Sustainability Manager-Mayor's Office, City of St. Petersburg, Florida
- Jared Wright, Director of Advocacy and Government Relations, Union of B.C. Municipalities

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