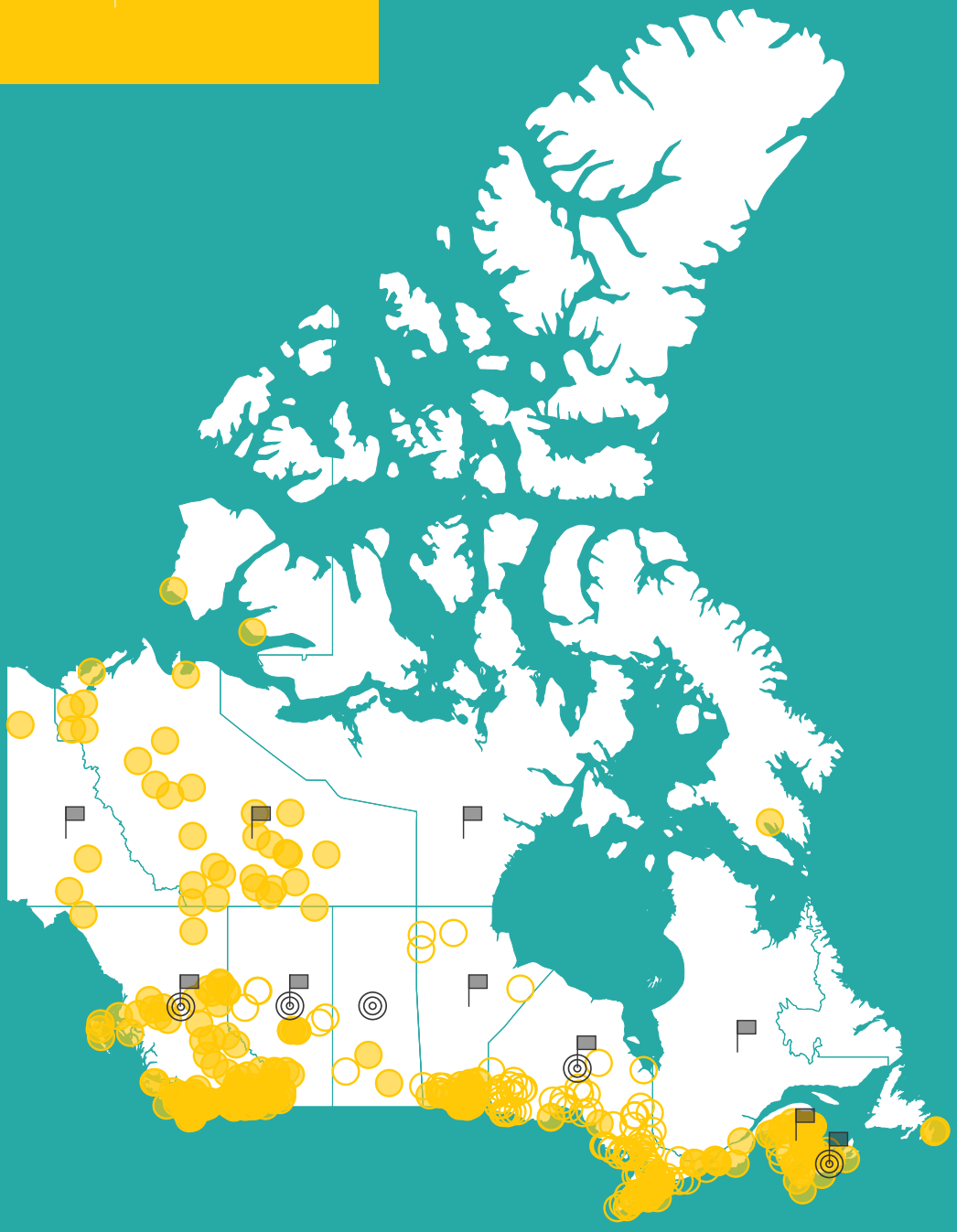
QUEST

Quality Urban Energy Systems of Tomorrow



OUR IMPACT

ADVANCING SMART ENERGY COMMUNITIES IN 2016

March 2017

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JOIN THE QUEST NETWORK BY LEARNING MORE ABOUT THE BENEFITS OF BECOMING A QUEST SUBSCRIBER, GET INVOLVED WITH A CAUCUS OR WORKING GROUP NEAR YOU, OR LEARN MORE ABOUT OUR ONLINE RESOURCES AND EVENTS.

Note from the Executive Director

10 Years of Advancing Smart Energy Communities

2007
The first conference of the collaborative was held in Niagara-On-The-Lake; a white paper was produced that outlined the vision for Integrated Community Energy Solutions (ICES) and a name for the collaborative, QUEST – Quality Urban Energy Systems of Tomorrow.

2008
The second conference of QUEST was held in Victoria where QUEST released its second white paper outlining the principles and definitions for ICES; the first QUEST Caucuses were established in British Columbia and Ontario.

2009
QUEST's principles for ICES were formally endorsed by the Council of Energy Ministers; the Standing Committee on Natural Resources prepared "Combining Our Energies: Integrated Energy Systems for Canadian Communities"; QUEST's third Caucus was established in Québec; the third conference of QUEST was held in Québec City.

2010
QUEST identified the capacity for ICES policies to reduce urban GHG with its Potential Study; the Council of the Federation endorsed the principles for ICES; the fourth conference of QUEST was held in Halifax where QUEST released its white paper that identified the organizational structures, networks, and processes to support the implementation of ICES; the Nova Scotia and New Brunswick Caucuses were established.

QUEST CELEBRATING 10 YEARS Quality Urban Energy Systems of Tomorrow

This year, *QUEST celebrated 10 years* of advancing Smart Energy Communities and there is even greater urgency to transform our communities to meet our energy and greenhouse (GHG) objectives. Communities, account for nearly 60% of the country's energy use and over half of all GHGs.

In the words of Michael Harcourt, QUEST's Chair, "communities are the fundamental solution for reducing GHGs and are the key partners for enabling the federal, provincial and territorial governments to achieve their GHG and energy objectives."

Just over nine years ago, QUEST identified the importance of changing energy thinking and the need to shift the focus from the upstream energy and central power generation to the downstream – the end-user – in an effort to better manage our energy use and to effectively reduce GHGs in our communities.

This resulted in much more than collaboration, it initiated a national movement and engaged a network of leaders across Canada supporting the adoption of a sustainable and integrated energy systems approach, as opposed to a singular focus on GHG reductions. An instrumental part of the movement was the establishment of QUEST's policy and technical principles to guide the effective implementation of Smart Energy Communities across Canada (see pg 31).

These principles have stood the test of time and informed thousands across Canada. Today, QUEST remains committed to changing the way we think about energy use in Canadian communities and the opportunity for GHG reductions.

With a national network that includes 8 provincial and regional Caucuses, their related Working Groups, and a reach of thousands of stakeholders, QUEST is supporting governments, utilities & energy service providers, the real-estate sector, and the product and professional service sector, among others to make Smart Energy Communities a reality.

This year, I am delighted to share with you a snapshot of the growing research, engagement and advocacy impact that QUEST is having to support the marketplace for Smart Energy Communities. Among the highlights include:

- National research showing a 85% increase in Community Energy Plans since 2014;
- The state of the Smart Energy Communities marketplace and a glimpse into the future;
- Timely market intelligence, critical connections, and supportive policy actions that grew the marketplace;
- Growing Caucuses and expanding topic driven national and provincial Working Groups; and,
- Delivering Value to the QUEST Network in 2017.

I encourage you to join the QUEST network by learning more about the benefits of becoming a QUEST Subscriber, get involved with a Caucus or Working Group near you, or learn more about our online resources and events.

Brent Gilmour MCIP RPP
Executive Director, QUEST

2011
QUEST incorporated as a national non-profit organization; established the QUEST National Advisory Committee; opened its first office in Ottawa; released the ICES Business Case series; hosted its fifth conference in Calgary; established the Alberta Caucus.

2012
QUEST released a series of papers to enhance awareness and literacy of ICES which identified the roles of various fuels, technologies, policies, and energy players; hosted its sixth conference in Winnipeg; established the Manitoba Caucus.

2013
QUEST rebrands ICES as Smart Energy Communities and releases the QUEST video; launched the Smart Energy Communities Atlas; hosted its seventh conference in Markham; established the QUEST North Caucus.

2014
QUEST launched the Community Energy Planning: Getting to Implementation in Canada (GTI) initiative; presented to the Senate Standing Committee on Energy, Environment and Natural Resources on the opportunity for Smart Energy Communities in the North; hosted its eighth conference in Vancouver; launched the Smart Energy Leaders' Dialogue comprised of senior energy decisions makers from across Canada.

2015
GTI concluded its research providing an overview of community energy planning and the policy landscape in Canada; QUEST hosted the National Policy Symposium on Energy Delivery and Management in Halifax; released the inaugural edition of the Smart Energy Communities Catalogue; launched QUEST Subscriber Services; hosted its ninth conference in Toronto; opened an office in Toronto.

COMMUNITIES ARE RESPONSIBLE FOR 60% OF ENERGY USE

QUEST VISION

EVERY COMMUNITY IN CANADA IS A SMART ENERGY COMMUNITY BY 2030

75%
REPRESENTED BY CEPS IN 2018

100%
REPRESENTED BY CEPS IN 2025

100%
FOCUS ON IMPLEMENTATION BY 2030

Getting to this end-state will require that 75% of Canadians are represented by a Community Energy Plan by 2018, reaching 100% by 2025, and that 100% of communities are focusing on implementation by 2030.

SMART ENERGY COMMUNITIES CAN BE FACILITATED THROUGH THE IMPLEMENTATION OF A COMMUNITY ENERGY PLAN (CEP).

A CEP is a tool that helps define community priorities around energy with a view to improving efficiency, cutting emissions, and driving economic development.

AND ACCOUNT FOR MORE THAN 1/2 OF ALL GHG EMISSIONS IN CANADA

WHAT DO SMART ENERGY COMMUNITIES LOOK LIKE?

By turning our communities into Smart Energy Communities, we can improve energy efficiency and enhance reliability, cut costs and reduce greenhouse gas emissions in Canada. So what are Smart Energy Communities?

ENERGY EFFICIENCY

From building automation to street lights, Smart Energy Communities take advantage of the full potential of energy efficiency and capitalize on lower energy costs, cutting emissions, and improving operating performance.

HARNESSING LOCAL ENERGY

Smart Energy Communities harness local energy opportunities. These can be stock opportunities like solar, wind and geothermal, or they can be opportunities that are tailored to a community like water source cooling, sewage heat capture, biomass for heating, biogas for electricity, and transportation fuel.

INTEGRATING CONVENTIONAL ENERGY NETWORKS

Electricity, natural gas, district energy, and transportation fuel networks in a community are better coordinated to match energy needs with the most efficient energy source. When conventional energy networks are integrated, it opens the door to innovations like alternative fuel vehicles, energy storage, waste heat capture, and combined heat and power.

LAND USE PLANNING

Smart Energy Communities integrate land use, recognizing that poor land use decisions can equal a whole lot of energy waste.

The successful implementation of Smart Energy communities on any scale requires astute decision making on the policy and technical side. To support this, QUEST developed 12 policy and technical principles to guide the development of Smart Energy Communities.

See pg. 31.

SMART ENERGY COMMUNITIES IN CANADA

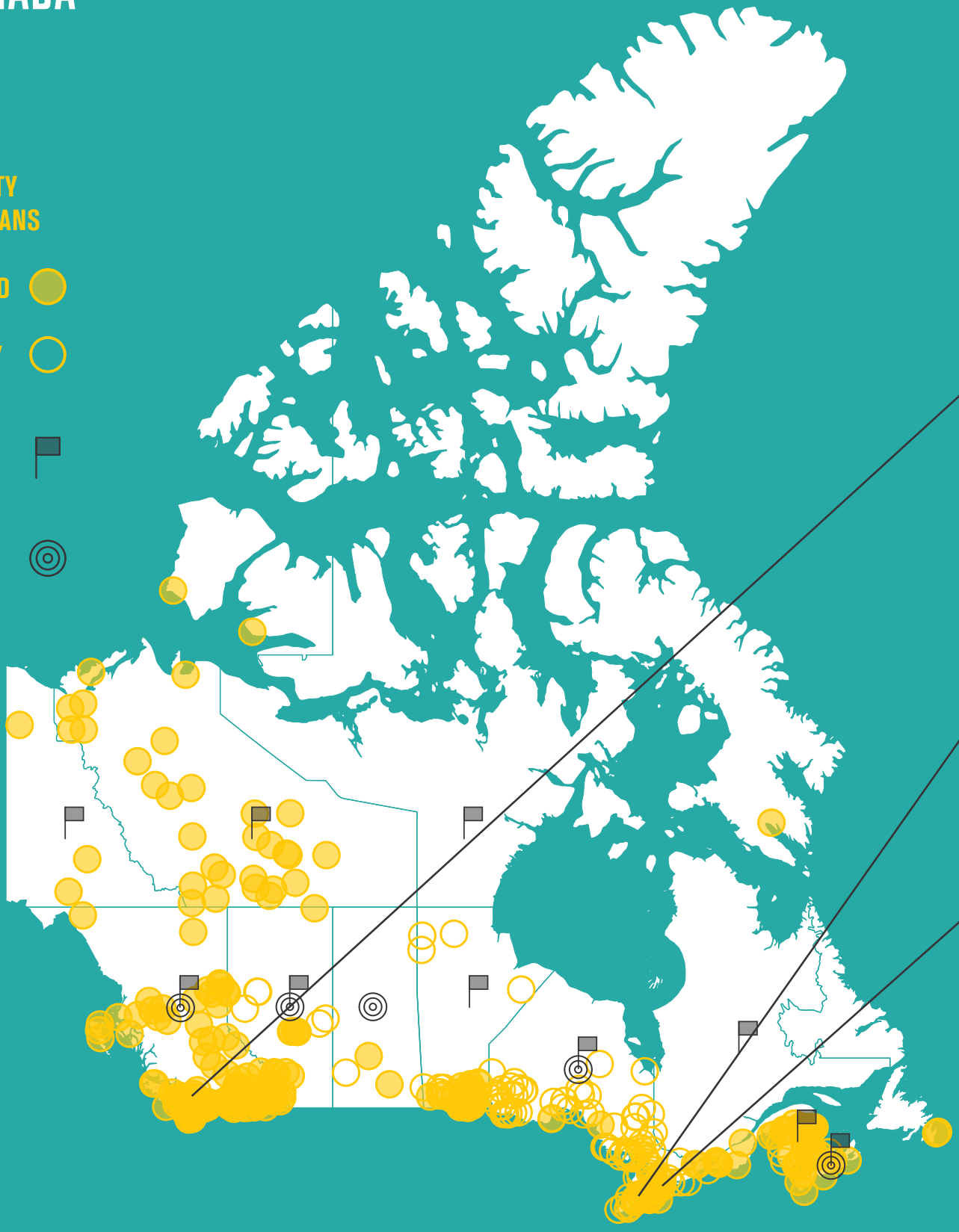
384
COMMUNITY ENERGY PLANS

COMPLETED

UNDERWAY

CAUCUSES

WORKING GROUPS

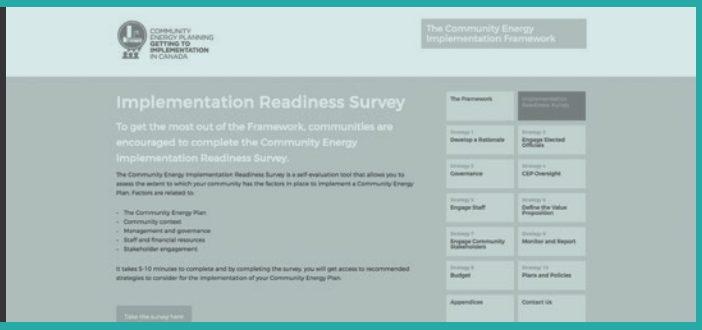


SMART ENERGY COMMUNITIES

ATLAS RESOURCE

The Community Energy Implementation Framework

Is a guide to help communities move Community Energy Plans from a vision to implementation and is accompanied by a Community Energy Implementation Readiness Survey.
http://framework.gettingtoimplementation.ca/



ATLAS PROJECT

The City of North Vancouver, BC

2016 Smart Energy Community Award Winner for the Moodyville showcase community, an area-wide rezoning of historic Moodyville where all new development must achieve high energy performance, with over half of the homes expected to achieve passive house certification.

ATLAS PROJECT

Ameresco and the City of London, ON

2016 Smart Energy Community Award Winner for the comprehensive improvement project to enhance energy efficiency at the Canada Games Aquatic Centre.

ATLAS PROJECT

Enbridge Gas Distribution

2016 Smart Energy Community Award Winner for the Savings by Design Program – created to assist builders design and construct buildings and houses with higher energy performance.

THE SMART ENERGY ATLAS

Learn more about smart energy projects, plans, policies, programs, and resources by visiting the Smart Energy Atlas
www.questcanada.org/atlas

THE SMART ENERGY COMMUNITIES AWARDS

Awards are presented annually to recognize leadership and innovation in advancing Smart Energy Communities in Canada. Make your nomination today.
www.questcanada.org/awards

THE STATE OF THE SMART ENERGY COMMUNITIES MARKETPLACE

2016 was a year of breakthroughs for the growth of the Smart Energy Communities marketplace. Energy is a significant and growing cost for Canadian communities and communities are consistently identifying that they have untapped opportunities to strengthen local economies, reduce current and future energy costs and greenhouse gas (GHG) emissions, and create jobs by investing in smarter and more integrated approaches to energy use at the local level.

Since the *Community Energy Planning: Getting to Implementation in Canada (GTI)* initiative was launched in 2014 there has been an 85 percent increase in the number of communities engaging in community energy planning, representing a 12 percent increase in the Canadian population covered by a CEP. The QUEST 2016 Smart Energy Communities Market Survey (Market Survey) identified some of the primary needs of the Smart Energy Communities marketplace, and with the projected growth of CEPs across Canada, there has never been a better time to engage in and support community energy planning than now.

This data was compiled from Community Energy Planning: Getting to Implementation resources, as well as, QUEST's 2016 Smart Energy Communities Market Survey which collected intelligence from municipal governments, utilities and energy service providers, the real estate sector, among others in the QUEST network.

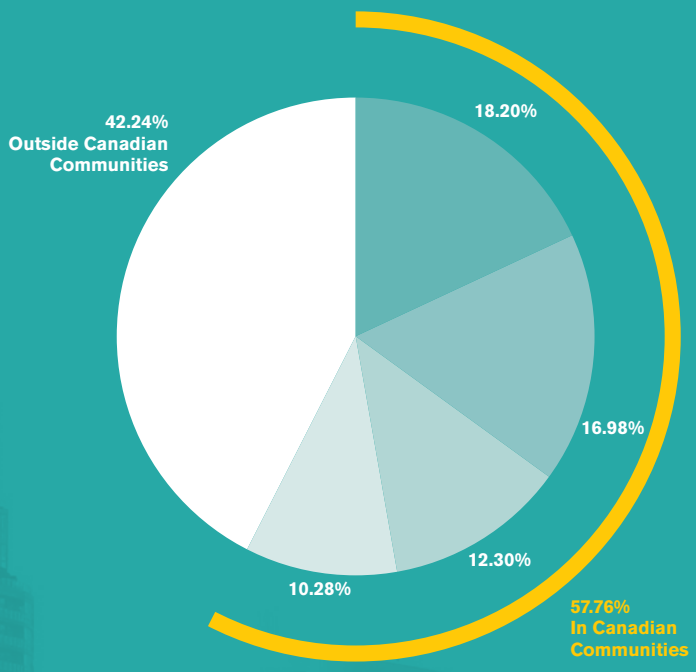
The Average Cost of Energy in Canadian Communities

Community Size	Average Community-Wide Spending on Energy
Small Communities (less than 20,000 people)	Up to $80 million
Mid-sized Communities (20,000 to 100,000 people)	$60 million to $400 million
Large Communities (100,000 people to 2.5 million people)	$200 million to $10 billion

Energy is a significant cost in Canadian communities. Each year millions, and in some cases billions, of dollars are spent on energy, much of which leaves the local economy. CEPs cut energy costs, drive economic development, reduce emissions, and create jobs.

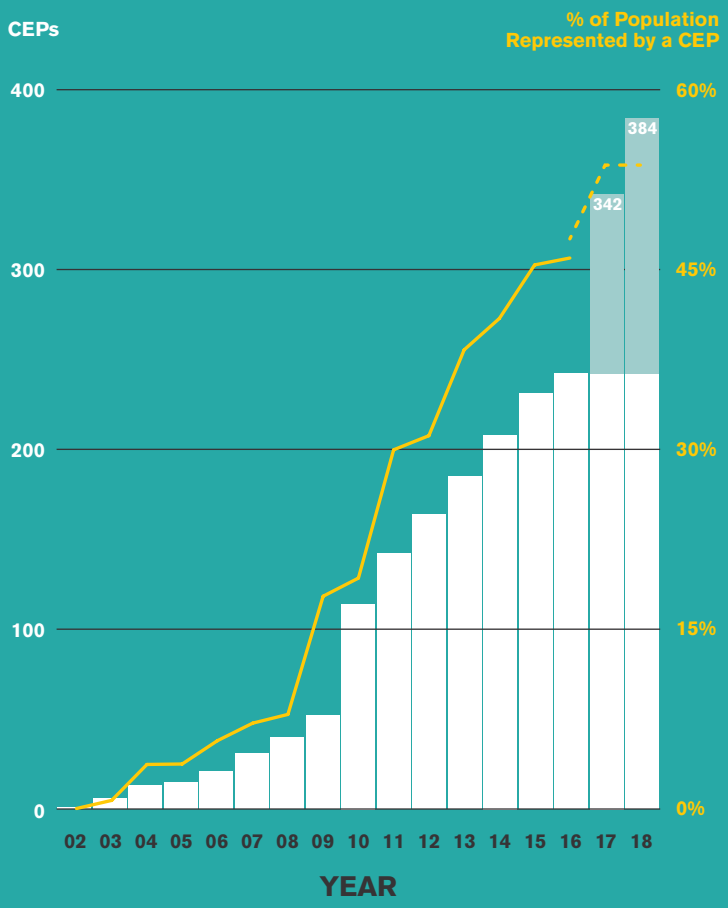
Source: National Report on Policies Supporting Community Energy Plan Implementation. Community Energy Planning: Getting to Implementation in Canada. July, 2015.

Energy Use in Canadian Communities by Sector (2013)

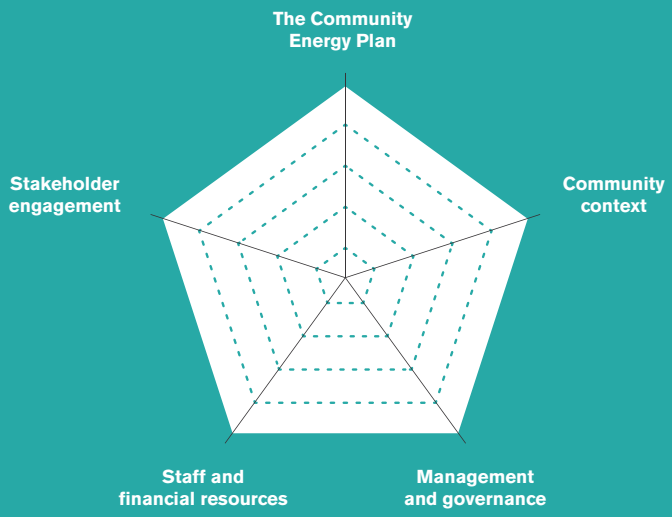


Source: Canada Energy Use: Comprehensive Energy Use Database, Natural Resources Canada. Accessed April 3, 2017.

The Number of CEPs are Growing



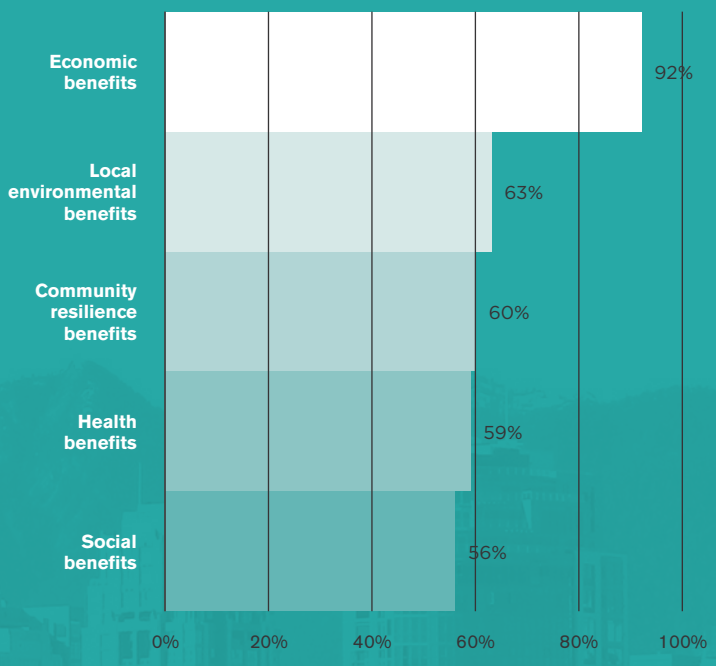
Key Success Factors for the Implementation of CEPs



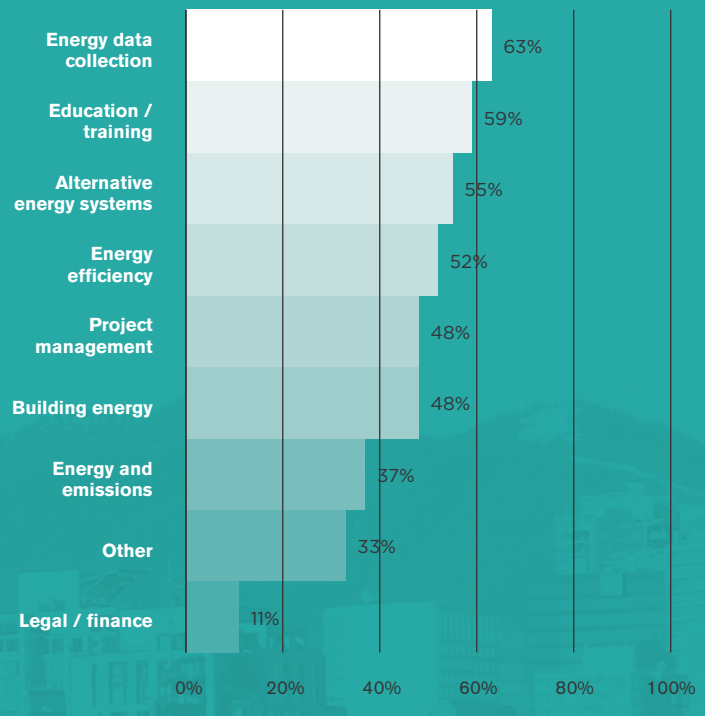
The Community Energy Implementation Readiness Survey is a self-evaluation tool that enables communities to measure their level of readiness for CEP implementation. The survey contains 27 success factors that influence successful CEP implementation, organized into the above five factor categories.

Source: Community Energy Implementation Framework. Community Energy Planning: Getting to Implementation in Canada. http://framework.gettingtoimplementation.ca/ December, 2016.

Primary Reasons for Developing a Community Energy Plan



The Primary Needs of the Market



Source: National Report on Community Energy Plan Implementation. Community Energy Planning: Getting to Implementation in Canada. February, 2015.

The Future of the Smart Energy Communities Marketplace is continued on pages 28-29

RESEARCH:

DELIVERED CUTTING EDGE RESEARCH AND MARKET INTELLIGENCE FOR SMART ENERGY COMMUNITIES

384+

Communities, have adopted or are on track to adopt a Community Energy Plan. This is an 85 percent increase in the number of CEPs, and a 12% increase in the Canadian population represented by a CEP, since the Community Energy Planning: Getting to Implementation Initiative was launched in 2014

8+

Reports developed to support the growth of the Smart Energy Communities marketplace

UPDATED

SMART ENERGY ATLAS

To serve as an interactive platform that allows everyone to share their smart energy projects and initiatives

"Powerstream attended the ECOP Planning Alignment Session in Markham which provided a unique and valuable forum for preliminary discussions surrounding the opportunities for alignment among community and regional energy planning stakeholders in York Region."

Neetika Sathe
Vice President, Corporate Development
PowerStream Inc.

ENERGY COMMUNITY OF PRACTICE (ECOP)

Ontario ENERGY COMMUNITY OF PRACTICE

An initiative developed in collaboration with the Clean Air Partnership with support from the Independent Electricity System Operator (IESO) that provided education and capacity building for Ontario local governments, utilities and other local stakeholders to support community energy plans and their alignment with regional and provincial energy planning priorities

QUESTCANADA.ORG/ECOP

PUBLISHED
TRAINING RESOURCES

For community energy planning and provincial energy planning alignment in Ontario

100+ Stakeholders from local governments, utilities and other sectors engaged

2 Focused energy planning alignment sessions in the York Region of Ontario, which resulted in the identification of 6 opportunities for alignment between community energy plans, utility conservation plans, and IESO regional plans

COMMUNITY ENERGY PLANNING: GETTING TO IMPLEMENTATION IN CANADA

COMMUNITY ENERGY PLANNING GETTING TO IMPLEMENTATION IN CANADA

A collaborative initiative spearheaded by the leading community energy experts in Canada focused on helping communities get to implementation

GETTINGTOIMPLEMENTATION.CA

500+ Organizations provided input on the development of the Community Energy Implementation Framework

3 Pilot communities engaged and 3 GTI reports released as part of the Community Energy Planning: Getting to Implementation in Canada initiative

LAUNCHED WWW.MISEENOEUVRE.CA

Providing key GTI resources to French speaking communities

LAUNCHED FRAMEWORK

A guide to help communities move CEPs from vision to implementation

ENGAGEMENT:

OFFERED A SUITE OF PROGRAMS AND SERVICES THAT GREW THE MARKETPLACE FOR SMART ENERGY COMMUNITIES

LAUNCHED
THE LOW CARBON PARTNERSHIP

With a target to help Canadian businesses and communities reduce 500,000 tonnes of carbon pollution by 2020. Founding members include Climate Smart, Sustainability CoLab, The Natural Step Canada, and QUEST

lowcarbonpartnership.ca

ACTIVATED
CANADIAN CHP NETWORK

Of working groups in AB, ON and SK

40%
INCREASE

In the size of the QUEST Subscriber network

2ND

Smart Energy Communities Catalogue distributed to 8000 decision makers and practitioners

8

Provincial and regional Caucuses made progress to advance Smart Energy Communities

9

Working Groups focused on CHP, transportation, buildings, municipal energy and climate change

MONTHLY

Local and regional networking events held to convene and connect, including QUEST's 10th Annual Conference & Tradeshow: Smart Energy Communities for Jobs, Investment and Climate Leadership in Calgary, AB.

"I've had many opportunities to work closely with The Natural Step, QUEST and Sustainability CoLab. They truly are leaders in the sustainability field, bringing together the wide range of players we'll need to realize real emissions reductions. By joining together with Climate Smart under the banner of The Low Carbon Partnership, I am confident these groups will find creative and impactful ways to work together and will play a major role in Canada's low carbon future."

The Hon. Glen Murray
Minister of Environment and Climate Change
Province of Ontario

ADVOCACY:

BUILT AWARENESS AMONG DECISION-MAKERS TO SET POLICY AND TAKE ACTIONS THAT ADVANCE SMART ENERGY COMMUNITIES

18 News releases and announcements

4 Media mentions of QUEST

50+ Presentations delivered across Canada on advancing Smart Energy Communities

10+ Submissions to 5 provincial governments from QUEST Caucuses that influenced energy and climate change policy and regulations

QUARTERLY

Meetings held with federal departments that resulted in new partnerships and support for Smart Energy Communities

ONE ON ONE

Meetings held with departments of Energy and Environment for NS, ON, AB, and BC

DOZENS

Of collaborations and other initiatives to advance Smart Energy Communities in Canada

"Canadian governments understand that our communities are essential to achieving GHG reduction targets since they account for 60 percent of energy use, as well as over half of all GHG emissions. From providing support for local governments, to responding to requests for independent guidance by provincial ministries, to offering suggestions through federal consultation, QUEST is a go to resource as governments create the conditions to meet their targets and ensure we have Smart Energy Communities in Canada."

Michael Harcourt
Chair of the QUEST Board of Directors,
Former Premier of British Columbia and
Former Mayor of Vancouver

THE QUEST NETWORK

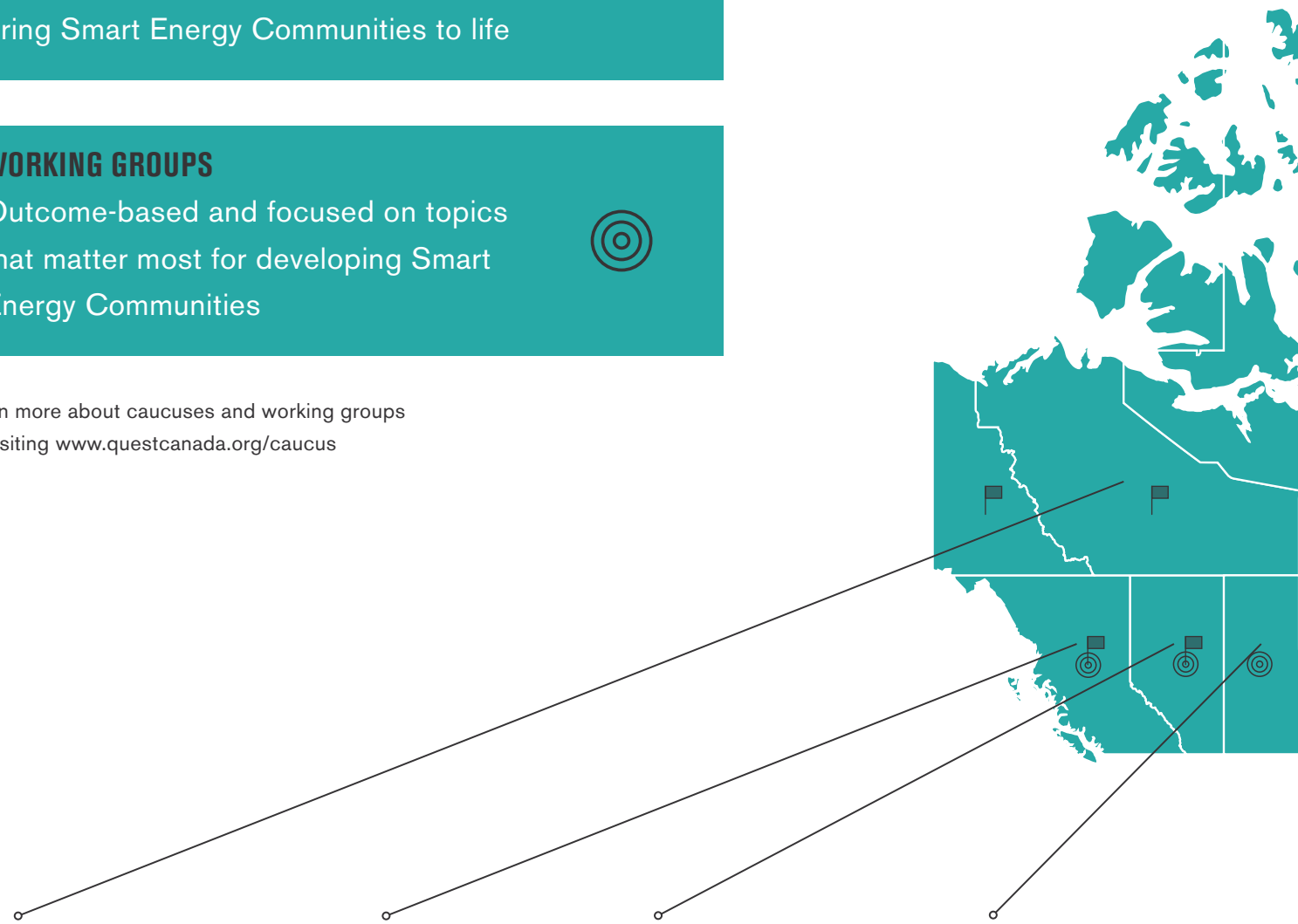
CAUCUSES

Meeting place for key stakeholders from government & Canada's energy industry bring Smart Energy Communities to life

WORKING GROUPS

Outcome-based and focused on topics that matter most for developing Smart Energy Communities

Learn more about caucuses and working groups by visiting www.questcanada.org/caucus



THE NORTH

2016 Caucus Chairs

Gordon Van Tighem
Chairman, NWT Public Utilities
Board Former Mayor
City of Yellowknife

Adam Chamberlain
Partner, Borden Ladner Gervais LLP
Director, NWT & Nunavut Chamber of Mines

BRITISH COLUMBIA

Incoming 2017 Caucus Executive

Jason Emmert
Air Quality Planner, Air Quality and Climate Change, MetroVancouver

Robyn Wark
Team Lead, Senior Relationship Manger, Sustainable Communities, BCHydro

Jason Wolfe
Director, Energy Solutions, FortisBC

ALBERTA

2016 Caucus Chair

Patrick Bohan
Director, District Energy and Combined Heat and Power
ENMAX

Working Group
Alberta Combined Heat and Power

MANITOBA

Incoming 2017 Caucus Executive

Dany Robidoux
Director
Eco-West

NATIONAL WORKING GROUP

Smart Energy Leaders' Dialogue

LD Chair

Mike Cleland
Member of the QUEST Board of Directors

2016 LD Participants

Francis Bradley
Chief Operating Officer
Canadian Electricity Association

Tim Egan
President & CEO
Canadian Gas Association

Andre Rochette
Founding President and CEO
Ecosystem

Jamie Milner
VP, Market Development & Customer Care
Enbridge Gas Inc.

Pat Bohan
Director District Energy & CHP
Enmax

Doug Stout
VP, Energy Solutions & External Relations
Fortis BC

Ross Hornby
VP, Government Affairs and Policy – Canada
GE Canada

Bruce Campbell
President & CEO
Independent Electricity System Operator

Gaëtan Thomas
President & CEO
NB Power

Patricia Fuller
Director General, Office of Energy Efficiency
Natural Resources Canada

Fiona Jones
GM, Sustainability
Suncor Energy Services

Dave Simpson
VP, In-franchise Sales,
Marketing & Customer Care
Union Gas Inc.

Michael Harcourt
Chair
QUEST Board of Directors

ONTARIO

2016 Caucus Chair

Karen Farbridge
President
Karen Farbridge Associates

Working Groups
– Municipal Working Group
– Ontario Combined Heat and Power Consortium
– Climate Change Policy

QUÉBEC

2016 Caucus Chair

Yves Hennekens
Président
YHC Environnement

NOVA SCOTIA

2016 Caucus Chairs

Rochelle Owen
Director, Office of Sustainability
Dalhousie University

Gina Patterson
Director
Clean Foundation

Working Groups
– Municipal Energy Working Group
– Solar Working Group
– Buildings Working Group

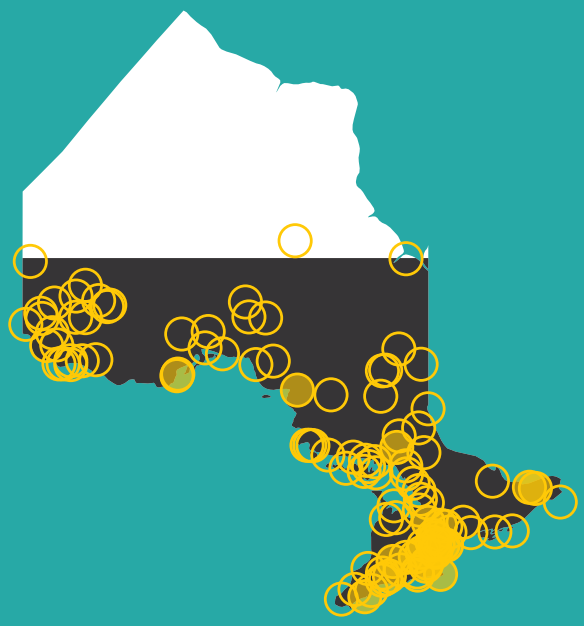
NEW BRUNSWICK

2016 Caucus Chair

Eddie Oldfield
Owner / Principal
Spatial Quest Solutions

CAUCUS IMPACT

ONTARIO



111
CEPs COMPLETED AND UNDERWAY

59%
OF POPULATION REPRESENTED BY A CEP

382+
QUEST ON Caucus participants engaged

2
Reports published: Community Energy Planning in Ontario: A Competitive Advantage for Your Community and Community Energy Planning and Data. The reports helped Ontario municipalities advance community energy planning

SUBMITTED RECOMMENDATIONS

To the Ministry of Transportation on electric vehicle infrastructure and policy which brought together key players interested in engaging in transportation issues

"QUEST has been the leader in creating a movement of cities embracing community energy planning. Currently in its 10th year, Guelph's community energy planning continues to see QUEST as critical partner in the development and implementation of its Community Energy Initiative."

Rob Kerr
Corporate Manager, Community Energy
The City of Guelph

"The City of Burlington continues to be involved with QUEST specifically the Ontario caucus. As the city enters year four of the implementation of its Community Energy Plan, we continue to receive valuable support from QUEST, including the staff, online resource documents, and networking opportunities. As we work through the actions in our plan with our community stakeholder partners, QUEST continues to keep us informed about current initiatives by government agencies and innovative practices in the energy sector. We look forward to our association with QUEST in 2017"

Lynn Robichaud, Sr.
Sustainability Coordinator, Capital Works Department, City of Burlington

"At EPS AB Energy Canada Ltd, we are an active and enthusiastic member of the CHP Consortium initiated by QUEST as this brings together stakeholders from a wide variety of organizations, industry sectors and institutions in order to spread the word on how CHP can contribute towards a sustainable energy future."

Jan Buijk
CEO, EPS AB Energy Canada Ltd.

3 WORKING GROUPS

MUNICIPAL WORKING GROUP

31 Municipalities and 45 participants engaged in the QUEST ON Municipal Working Group

7 Recommendations to the Coordinated Land Use Planning Review to help better align urban planning with community energy and climate change goals

PROVIDES A forum for sharing best practices on community energy planning in Ontario

CLIMATE CHANGE POLICY WORKING GROUP

15 Participants in the QUEST ON Climate Change Policy Working Group

POLICY RECOMMENDATIONS Submitted to the Ministry of Environment and Climate Change contributed to establishing a $30M fund for Community Energy Planning and $100M for implementation

ONTARIO CHP CONSORTIUM

160+ Participants representing a diverse group of stakeholders from industry, LDC's, gas utilities, the public / institutional sector, and technology & service providers

PROGRAM RECOMMENDATIONS Submitted to the IESO and via electronic distributor committees resulted in the removal of administrative barriers to third party ownership of CHP systems

POLICY RECOMMENDATIONS Submitted to the ON Ministry of Environment and Climate Change resulted in supportive cap and trade policy, whereby natural gas use associated with CHP became eligible for free allowances

INTRODUCED Municipalities and industrial facilities from across Canada to the benefits of CHP through conferences, presentations and study tours

CAUCUS IMPACT

NOVA SCOTIA

6
CEPs COMPLETED AND UNDERWAY

46%
OF POPULATION REPRESENTED BY A CEP

180+

QUEST NS Caucus participants engaged

2

Events and workshops including the Summer Road Trip, Renewable to Retail Workshop

1 NEW REPORT

Prepared that reviewed the Market Readiness for Smart Energy Projects in NS. The Report provided intelligence to the Nova Scotia Department of Energy and the Atlantic Canada Opportunities Agency (ACOA) to investigate the critical skills and support required for Smart Energy project implementation

"Participating in the QUEST NS Buildings Group is a great way to maintain perspective on what is happening in the world of the "built environment". There are so many exciting projects and developments and bringing folks together at the QUEST NS Buildings Group provides a great opportunity for insight, input and prospects for collaboration in each others initiatives."

Lara Ryan
Regional Director, Atlantic Chapter,
Canada Green Building Council

"Attending the QUEST NS meetings has been a major asset to my company. QUEST NS has been a valuable resource as they provide a critical platform for my company to meet with the key players of the energy market in Atlantic Canada."

Al Darrach
A.G. Darrach, Managerial Services Inc.

"QUEST NS has filled a void in that it brings Municipalities together to share knowledge and ideas about energy programs. This process is a very valuable learning experience as it builds relationships, partnerships and provides information about programs and successes that would otherwise not be readily available. Thank you, QUEST."

Rennie Bugley
CAO, County of Cumberland, Chair
Cumberland Energy Authority

3 WORKING GROUPS

MUNICIPAL ENERGY LEARNING GROUP

30 Members

IMPROVED

The capacity of NS municipalities to develop and implement community energy plans through the exchange of best practices and innovation in programs and policy between municipalities

SOLAR WORKING GROUP

30 Members

EMPHASIZED RECOMMENDATIONS

Which were provided to the Halifax Regional Municipality in the 2013 Solar Planning Report and had yet not been acted on

BUILDING WORKING GROUPS

60+ Members

DEVELOPED A NETWORK

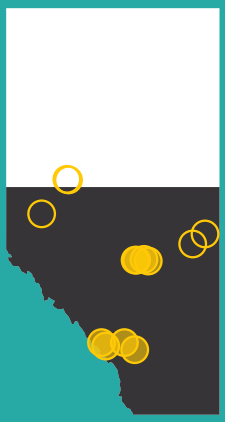
That provided a unified and respected voice in NS on the environmental performance of buildings

CONVENED STAKEHOLDERS

Around priority issues and acted as a central resource for information gathering and sharing on energy management for buildings with presentations from the Canada Green Building Council - Atlantic Chapter, Efficiency Nova Scotia, and the Building Code Coordinator for Nova Scotia

CAUCUS IMPACT

ALBERTA



13
CEPs COMPLETED AND UNDERWAY

57%
OF POPULATION REPRESENTED BY A CEP

328+ QUEST AB Caucus participants engaged

22 Recommendations submitted to inform the Alberta Climate Leadership Plan

Hosted the QUEST2016 Conference & Tradeshow: Smart Energy Communities for Jobs, Infrastructure & Climate Leadership

Provided support to the province in reaching its climate reduction targets through a consultation session with Alberta's Energy Efficiency Advisory Panel

"Participating in the QUEST Leaders' Dialogue and Caucuses brings GE valuable insights and perspectives on Clean Energy from across Canada as we continue to deliver clean, innovative energy solutions here at home and around the world."

Mark Dixon
Senior Market Development Leader – Government
GE Canada

CHP Working Group

50+ Participants representing 20+ organizations in the AB Combined Heat and Power Working Group

Influenced the provincial micro-generation regulatory amendments with recommendations resulting in an increase in eligible facilities from 1 MW to 5 MW

Advocated for CHP as a cost-effective solution to help improve energy efficiency and reduce GHGs through the Alberta Energy Efficiency Panel

Shone the spotlight on CHP nationally by hosting a CHP Workshop at QUEST2016

NEW BRUNSWICK

43
CEPs COMPLETED AND UNDERWAY

39%
OF POPULATION REPRESENTED BY A CEP

- 70+ QUEST NB Caucus participants engaged
- 50+ Attended QUEST NB Community Energy Planning Workshops as part of the Advancing Smart Energy Communities in NB Initiative
- Published Community Energy Planning Primer for NB Municipalities in both English and French
- Presented to the NB Select Committee on Climate Change resulting in the inclusion of recommendations to support community energy planning in the Select Committee's final report to the NB Legislature

"QUEST has laid the groundwork and foundation for NB communities to advance community energy planning, with over 30 municipalities now advancing CEPs through a variety of initiatives."

Eddie Oldfield
Owner / Principal, Spatial Quest Solutions

"The work of QUEST has been instrumental in helping the Town of Dalhousie progress toward becoming a Smart Energy Community. By participating in the NB Caucus, my energy literacy was raised, allowing me to better serve my town. QUEST also held an energy mapping workshop in Dalhousie where micro-hydro was identified by participants as an area of potential benefit to the community. That concept is now in the process of becoming a reality."

Christy Arseneau
Former CAO of the Town of Dalhousie, NB

QUÉBEC

5
CEPs COMPLETED AND UNDERWAY

35%
OF POPULATION REPRESENTED BY A CEP

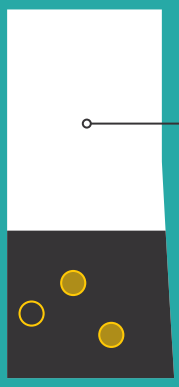
- 10+ QUEST QC Caucus participants engaged
- Hosted a Community Energy Planning: Getting to Implementation Workshop on March 17, 2016
- Developed partnerships to strengthen knowledge and cooperation between Canadian and Québec QUEST partners and members
- Prepared to grow the Caucus in 2017

"With the development of the Quebec Electric Circuit, the largest public charging network for electric vehicles and from the Oujé-Bougoumou District Heating System to La Cité Verte to the Benny Farm Complex, Québec prides itself on its leading examples of Smart Energy Communities. In 2016, the Quebec Caucus set out a plan to establish outcome oriented Working Groups on topics that matter to Québec, provide more networking opportunities and translate key materials to French in 2017."

Yves Hennekens
QUEST QC Caucus Chair and President, YHC Environnement

CAUCUS IMPACT

SASKATCHEWAN

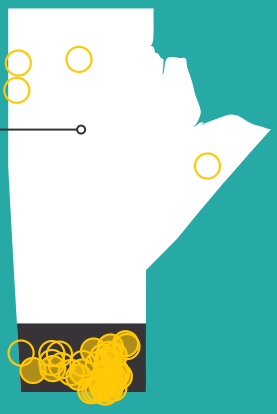


3
CEPs COMPLETED AND UNDERWAY

40%
OF POPULATION REPRESENTED BY A CEP

Operated a Combined Heat and Power Working Group with committees that addressed utility changes, interconnection issues, and quantified GHG impacts

MANITOBA



40
CEPs COMPLETED AND UNDERWAY

18%
OF POPULATION REPRESENTED BY A CEP

Developed partnerships to strengthen knowledge and explore interest in the launch of a QUEST MB Caucus in 2017

*map as placeholder to be updated

BRITISH COLUMBIA

123
CEPs COMPLETED AND UNDERWAY

90%
OF POPULATION REPRESENTED BY A CEP

109+ QUEST BC Caucus participants engaged

105+ Delegates of the 2016 Community Energy Symposium which focused on implementing key provisions of the BC Climate Leadership Plan

Kicked off the Land-Use Transportation Working Group and facilitated its first meeting with 20 participants

"In BC, our 2016 work kicked off with the BC Community Energy Symposium which set the stage for implementation of the Climate Leadership Plan and set in motion the creation of a Land-Use Transportation Working Group. After much anticipation, the Climate Leadership Plan was released in August and BC Caucus members are looking forward to playing active role in advancing Smart Energy Communities in 2017. Building on this past success, QUEST is committed to providing even value to BC Caucus members on targeted priorities in 2017."

Jason Emmert
Air Quality Planner, Metro Vancouver

NORTH

37
CEPs COMPLETED AND UNDERWAY

67%
OF POPULATION REPRESENTED BY A CEP

44+ QUEST North Caucus participants engaged

Convened energy and community stakeholders from across the three territories to identify projects and partnerships to accelerate community energy planning

Hosted QUEST2016 Session on Smart Energy for Small, Rural, Remote and First Nations Communities

"Most communities in Canada's North are not connected to large grids and rely exclusively on independent diesel generators for power. Supporting community energy initiatives is needed to help cut costs, drive economic development and reduce emissions. QUEST North brings northern energy and community stakeholders together with a view to advancing knowledge and innovation, identifying opportunities for collaboration, and aligning messaging for advocacy."

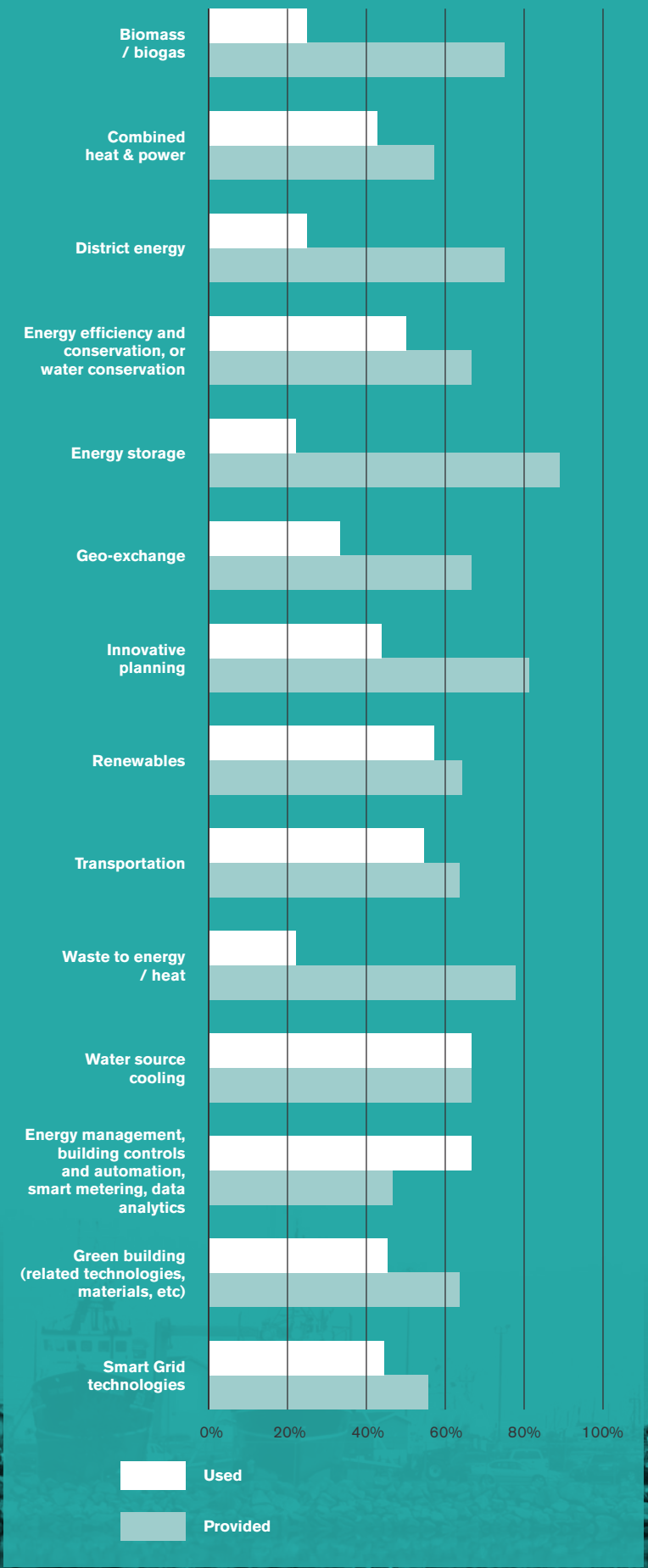
Gordon Van Tighem
Chairman, NWT Public Utilities Board and Former Mayor
City of Yellowknife

THE FUTURE OF THE SMART ENERGY COMMUNITIES MARKETPLACE (CONT'D)

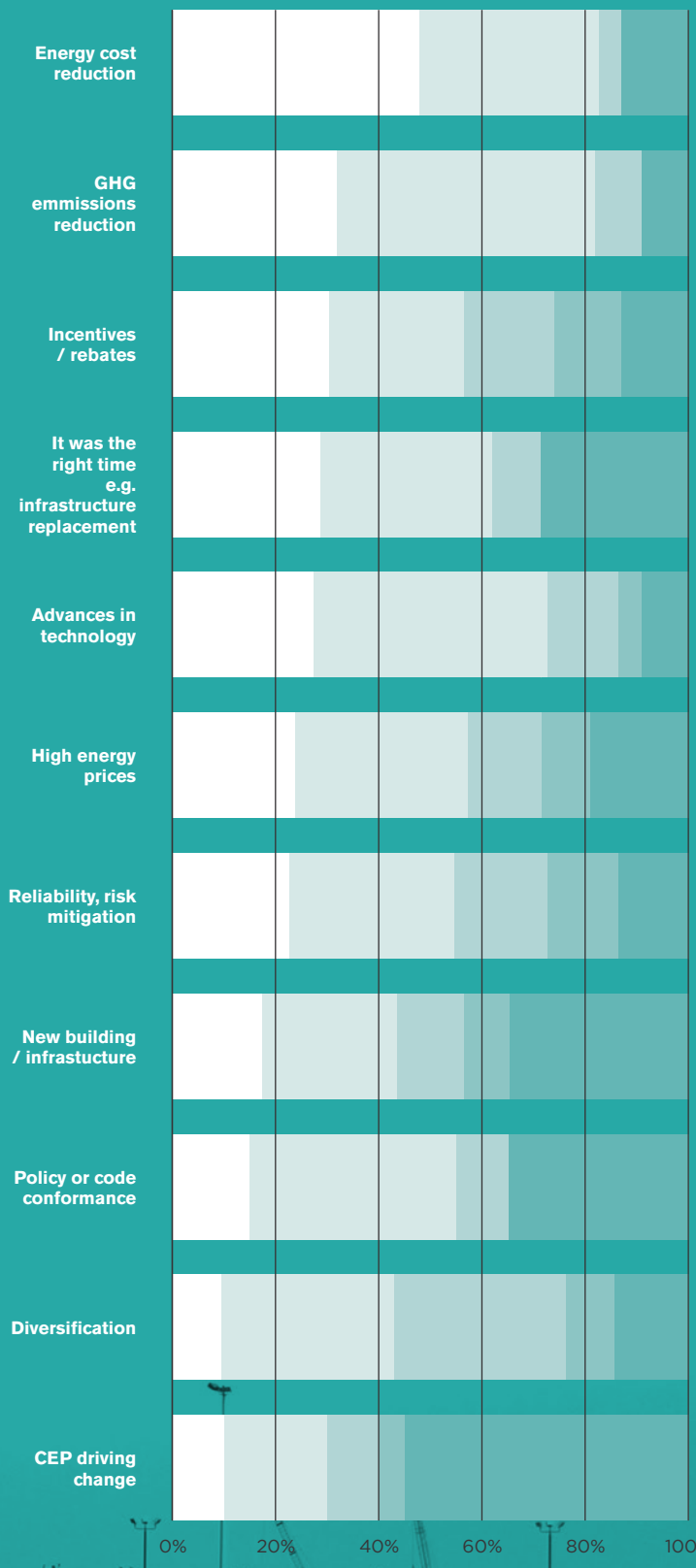
From the results of the Market Survey, we learned investments in smart energy solutions are motivated primarily by high energy costs, followed by a need to reduce GHG emissions, comply with policy and regulation, and improve reliability and risk mitigation.

We learned that energy efficiency and energy management technologies rank at the top of the most identified technologies and services needed to meet these objectives. Improved policy and programming for energy efficiency and conservation was also identified. Many barriers face communities in investing in new energy technologies. Most commonly reported include too long a payback period and lack of initial capital and policy failure.

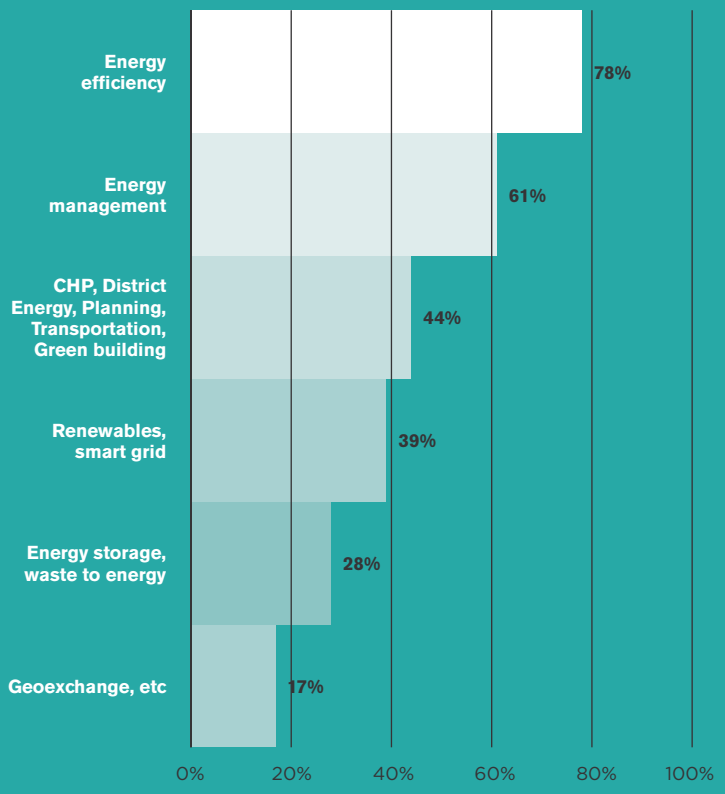
Technologies and Services Used and Provided by Market Survey Respondents



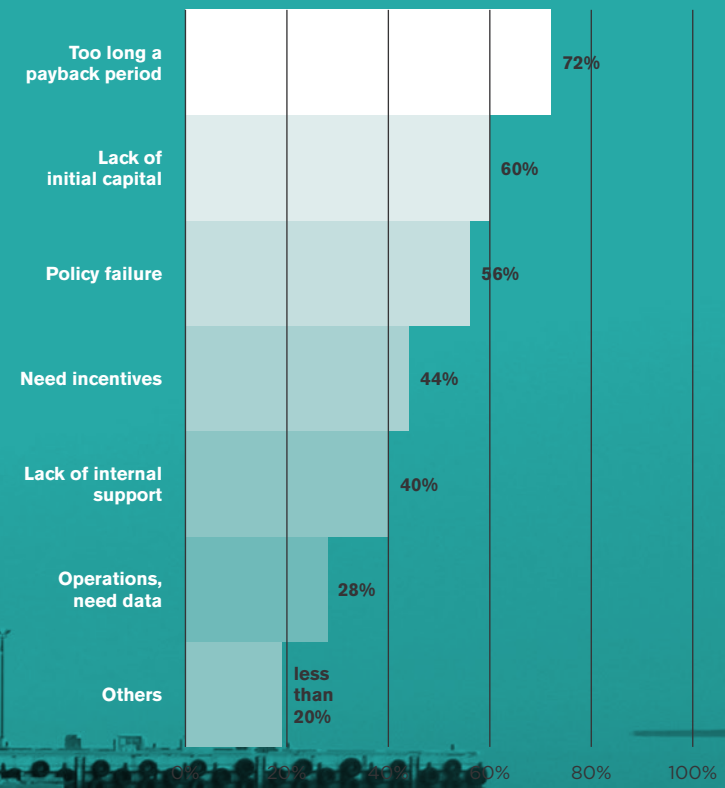
Main Factors for Using Smart Energy Technologies and Services identified by Market Survey Respondents



The Most Needed Services and Technologies in the Future Identified by Market Survey Respondents



The Most Significant Barriers for Investing in New Energy Technologies Identified by Market Survey Respondents



DELIVERING VALUE TO THE QUEST NETWORK IN 2017

We are committed to growing the Smart Energy Communities marketplace. As the leader in the development of Smart Energy Communities, we strive to provide a high level of value to the QUEST network and will continue to:

INFLUENCE

- Policy & Regulations
- Industry Innovation
- Government Strategy

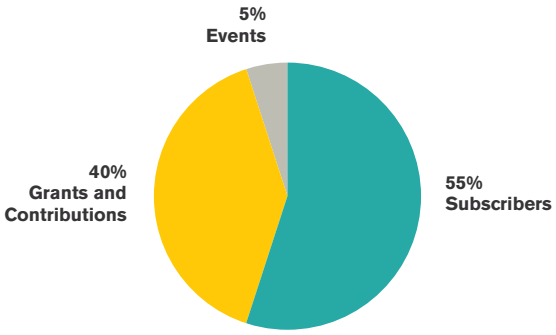
CONNECT

- Provincial & Regional Caucuses
- Working Groups
- Conferences & Events

EDUCATE & OFFER SERVICES

- Market Intelligence
- Tools
- Professional Advisory Services

QUEST IS SUSTAINED BY:



In 2017, QUEST is expanding service offerings to better support the development of Smart Energy Communities through the following ways:

- Outcome focused Working Groups and Task Forces across the organization on topics of interest, such as combined heat and power, district energy, Indigenous energy, transportation, high performance building, among others
- Increased local capacity through QUEST regional leads in NB, NS, ON, AB and BC
- Targeted research for Caucuses and Working Groups
- Timely market intelligence (e.g. Smart Energy Communities Market Survey)
- Tools to measure performance (e.g. Smart Energy Communities Scorecard/Index)
- Subscriber only networking opportunities
- New advisory services to support the development and implementation of Smart Energy Communities
- QUEST 2017 Conference & Tradeshow: Smart Energy Communities on the Hill taking place November 6-8, Delta Ottawa

Join the QUEST network by becoming a Subscriber and get involved with a Caucus or Working Group and make Smart Energy Communities a reality!

Website
www.questcanada.org

Newsletter
http://eepurl.com/bP6S9H

https://twitter.com/questcanada

http://bit.ly/2nwKKdQ

https://www.youtube.com/user/QUESTtalks

ABOUT QUEST

Principles for Smart Energy Communities

The successful implementation of Smart Energy Communities on any scale requires astute decision making on both the policy side and the technical side. QUEST has developed the following policy and technical principles in order to guide the effective implementation of Smart Energy Communities.

Technical Principles

Improve efficiency – first, reduce the energy input required for a given level of service

Optimize exergy – avoid using high-quality energy in low-quality applications

Manage heat – capture all feasible thermal energy and use it, rather than exhaust it

Reduce waste – use all available resources, such as landfill gas and municipal, agricultural, industrial, and forestry wastes

Use renewable energy resources – tap into local opportunities for geoexchange systems, small scale hydro, biomass, biogas, solar, wind energy, and opportunities for inter-seasonal storage

Use energy delivery systems strategically – optimize use of energy delivery systems and use them as a resource to ensure reliability and for energy storage to meet varying demands

Policy Principles

Match land use needs and mobility options – understand the energy implication of land use, infrastructure for water and wastewater, waste management, personal mobility, goods movement, and building design decisions

Match energy options to local context – local climate, building on land use choices, industrial structure, availability of local sources of waste and renewables

Send clear and accurate price signals – consumers should see and pay full real costs, including external costs

Manage risks and be flexible – maintain technological and fuel diversity; pursue cost-effective opportunities first and incorporate learning; assume the need to adapt quickly to market and technological surprises

Emphasize performance and outcomes in policy and regulations – avoid prescribing fuels and technologies

Pursue policy and program stability – maintain a consistent and predictable decision making environment to sustain investor confidence

Mission

QUEST is a non-profit that conducts research, engagement, and advocacy to advance Smart Energy Communities in Canada by working with government, utilities, the energy industry, the real-estate sector, economic regulators, and the professional service sector.

Vision

Every community in Canada is a Smart Energy Community by 2030.

Getting to this end-state will require that 75% of Canadians are represented by a community energy plan (CEP) by 2018, reaching 100% by 2025, and that 100% of communities are focusing on becoming Smart Energy Communities by 2030.

Guiding Values

Objective: Independent, non-partisan and committed to the public interest.

Informative: Trusted, credible and balanced information on Smart Energy Communities.

Collaborative: Respectful and inclusive of the QUEST network.

Innovative: Inspiring Smart Energy Communities policy and transformation.

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